

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

1st Quarter of Fiscal Year 2020-2021 (Y8)

Reporting Period: July 1, 2020 – September 30, 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

(July 1, 2020 – September 30, 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)	TARGET
CTR-Linked Publications	25 (8)	
Proposals Submitted (#)	48	
Subcategory: Proposals Submitted by ESIs	6	
Subcategory: Proposals Submitted by Clinicians	16	
Proposals Funded (#)	64	
Subcategory: ESIs-Proposals Funded	5	
Active	5	
New	1	
Subcategory: Clinician-Proposals Funded	44	
Active	44	
New	6	
Total External Funding Received (\$)	\$17,034,441.54	
Subcategory: Federal	\$ 14,781,669	
Subcategory: State	\$ 497,394	
Subcategory: Industry	\$ 860,136	
Subcategory: Other*	\$ 895,242	
*nonprofits includes: foundations, professional		
Disclosures Submitted:	6	
Patent Applications	2	
Patents Awarded	1	
WVCTSI Membership	2837	3400
Non-Morgantown	819	850
Community Membership	196	230
Investigators accessing CTSI services or resources (unique # per quarter)	244	
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 1st quarter (Q1) of fiscal year 2020/2021 (Y9), which covers a reporting period from July 1st, 2020 through September 30th, 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 1 of year 9 there were 25 peer-reviewed publications officially linked¹ to WVCTSI funding, 48 external funding proposals totaling over \$36 million (6 and 16 by early stage investigators and clinicians, respectively), and 64 funded awards (\$17 million).

Overall recommendations from Tracking and Evaluation Core

- Identify Year 9 annual targets for appropriate metrics in all cores and on the WVCTSI Dashboard.
- While good progress has been made, continue efforts to increase number of publications linked to the WVCTSI NIH funding award. This should include all WVCTSI members who generate scholarly publications having an ORCID ID as part of their WVCTSI membership profile.
- 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

- Use Year 8 metric data in all metrics spreadsheet (Excel) distributed with this report to identify Year 9 annual targets for all appropriate metrics, including prompting the Steering Committee to set targets for WVCTSI Dashboard metrics.
- Continue to facilitate core and partner discussions and collaborative efforts to innovatively facilitate additional publications supported by and linked to WVCTSI NIH funding award.
- Continue implementing system where all WVCTSI members who generate scholarly publications 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.

Key Recommendations to Clinical Research Design, Epidemiology & Biostatistics Core

- Consider whether REDCap projects should continue to be created for non-WVCTSI investigators in the context of the current annual target being substantially exceeded.

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).

- Consider whether the frequency of professional development events is appropriate in the context of no such events occurring during this 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 to work to align core personnel practices with WVCTSI SOPs for iLab data entry.
- Continue and expand efforts to disseminate research results through publication in high-quality journals and other outlets.

Key Recommendations to Pilot Projects Core

- Identify barriers and work to increase submissions of pilot project applications from partner institutions outside of WVU.
- 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.
- Consider whether educational programming is sufficient in the context of no new academic courses, workshops, C/T research seminars, or unique participants in educational programming in Q1.

Key Recommendations to Technology and Resources for Core Laboratories Core

- Use Year 8 metric data in all metrics spreadsheet (Excel) distributed with this report to identify Year 9 annual targets for metrics that do not yet have targets identified.
- Consider whether additional efforts should be directed toward genomics studies.
- 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 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

- Use Year 8 metric data in all metrics spreadsheet (Excel) distributed with this report to identify Year 9 annual targets for all appropriate metrics.
- 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 48 external funding proposals (\$36.6 million) and 64 funded awards (\$17 million) during Y9 Q1. Figures 1 and 2 show types of external funding proposed and awarded per cores contributing. WVCTSI Staff numbers dropped by two this quarter, to 44.

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					693
Year 6	58	68	78 (5)	68 (1)	272 (6)
Year 7	56	65 (1)	74 (3)	90 (2)	285 (6)
Year 8	65 (5)	90 (3)	68 (4)	51 (10)	274 (22)
Year 9	25 (8)				25 (8)
					1549 (42)

Note: 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. As seen in past quarterly evaluation reports, throughout Year 8 it appeared that the number of linked publications was substantially lower than expected. However, new processes and substantial effort by WVCTSI personnel across cores and partners has led to gains such that linked publications for year 8 now appear similar to or in excess of prior years.

External Funding Proposal Amounts by Core

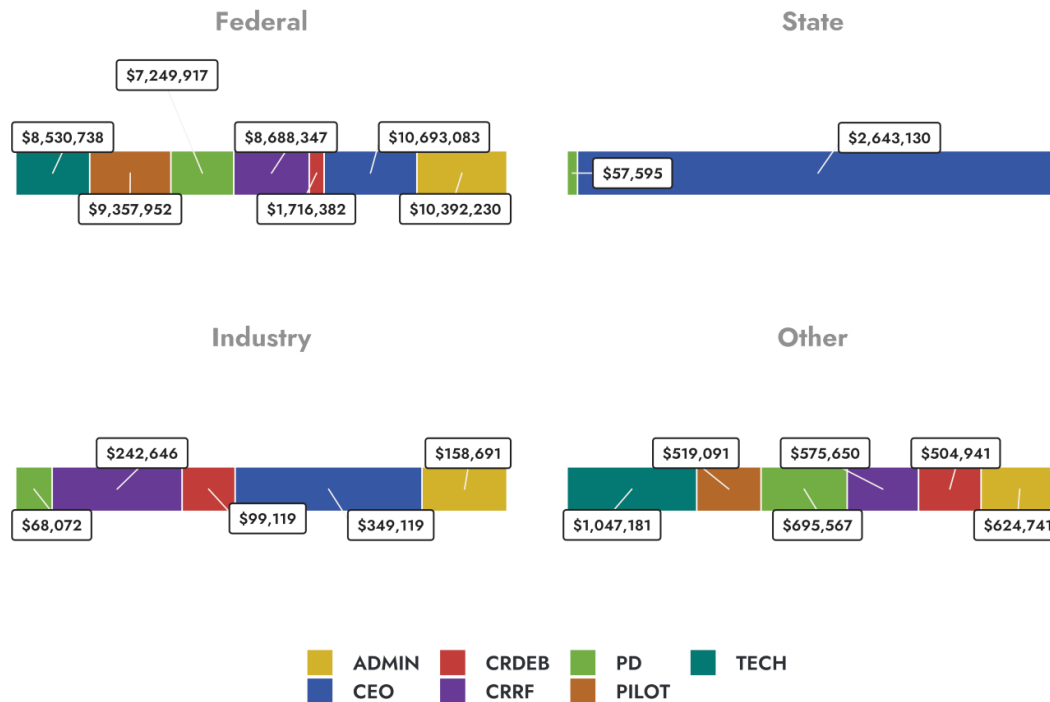


Figure 1. External funding proposals dollar amount requested and category per core

External Funding Award Amounts by Core

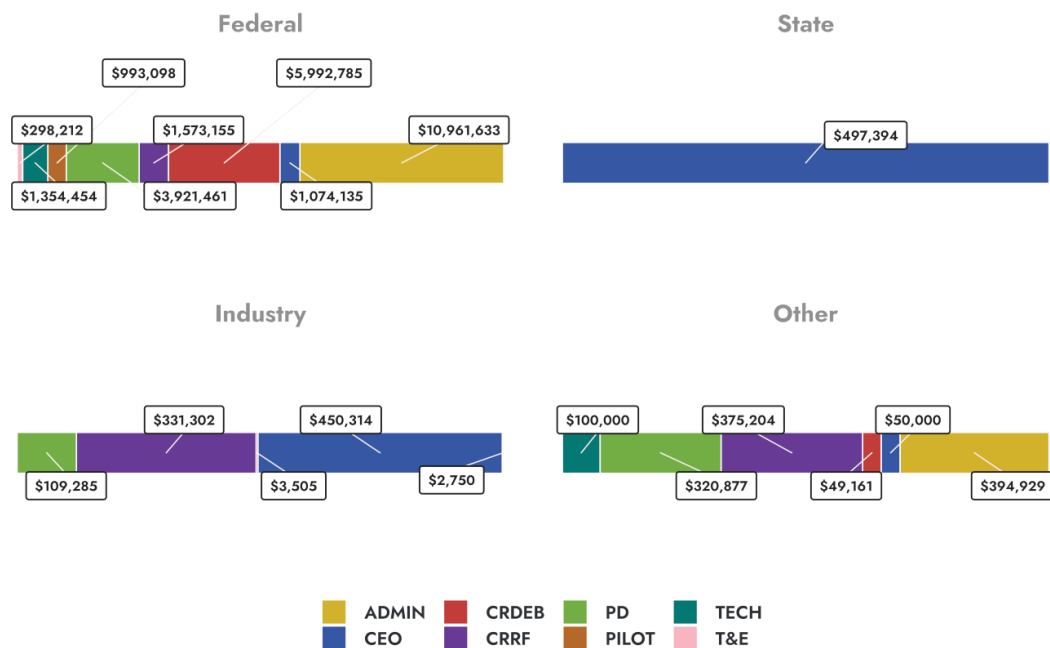
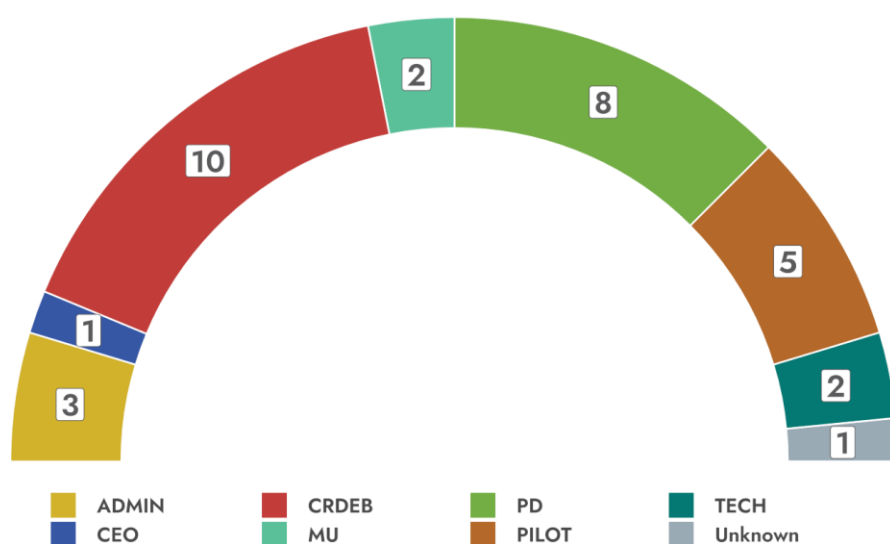


Figure 2. External funding awards dollar amount per core.

There were 25 publications linked to the grant (with 8 others ahead of print) in Quarter 1. Cores and partners contributed to the following number of linked publications each: 3 ADMIN, 1 CEO, 10 CRDEB, 8 PD, 5 PILOT, 2 TECH, 1 WVSOM, and 2 MU. These numbers do not sum to 25 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.

Publications by Core



Presentation Counts by Core

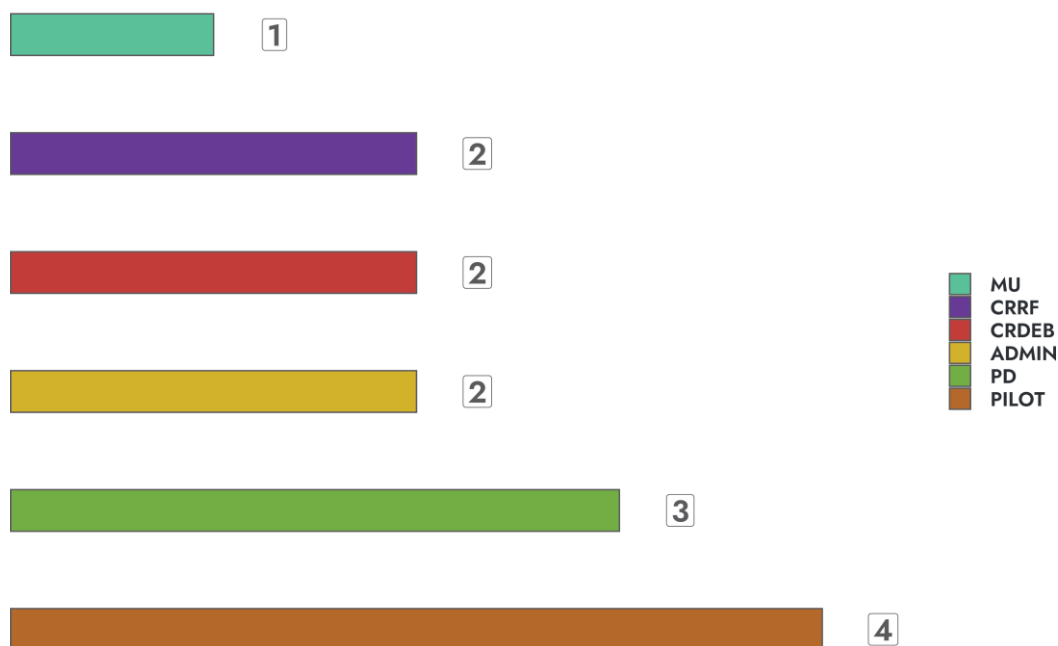


Figure 3. Contributions per core to Y9Q1 WVCTSI linked publications and presentations.

In order to address the concern that WVCTSI may be supporting publications that are not being appropriately identified and linked to the grant, TEC pulled publications from appropriate library databases (e.g., PubMed) utilizing all names on the WVCTSI member list and limiting the search to publications during the Y9 Q1 funding period. The resulting list was reduced by including only those publications with author institutional affiliations in West Virginia. Core leadership is reviewing the list and contacting 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).

From Y8Q4 to Y9Q1, WVCTSI website traffic increased on average, with 88 more visitors per day, with total number of website hits increasing by 30k, from 96k to 124k. WVCTSI's social media engagement continues to steadily increase: Facebook (+18 Likes and +17 follows), Twitter (+22 Followers), and Listserv (+178).

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 48 external funding proposals and 64 external awards this quarter. Percentage of NIH award expended ranged from 2 – 17%, with PD and TEC spending the least (2 and 3%), and TRCL and CRDEB spending the most (13 and 17%). There were 4 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.

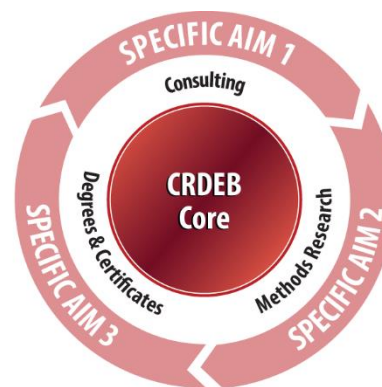
Key Recommendations to Administrative Core

- Use Year 8 metric data in all metrics spreadsheet (Excel) distributed with this report to identify Year 9 annual targets for all appropriate metrics, including prompting the Steering Committee to set targets for WVCTSI Dashboard metrics.
- Continue to facilitate core and partner discussions and collaborative efforts to innovatively facilitate additional publications supported by and linked to WVCTSI NIH funding award.
- Continue implementing system where all WVCTSI members who generate scholarly publications 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 215 new REDCap users in Q1 with a total of 2,142 REDCap users to date (608 of which are active users). Of the 2,142 REDCap users, 1,656 were from WVU (525 active), 16 from CAMC (4 active), 13 from WVSOM (6 active), and 457 not affiliated with the above entities (73 active).



There were 0 hours reported in the category of updating existing REDCap projects and providing project follow-up meetings in Q1. 3 REDCap projects were made for WVCTSI- funded investigators (almost half of the annual target of 7) and 14 REDCap projects were made for non-WVCTSI investigators (almost tripling the annual target of 5), 12.25 hours were spent building new REDCap projects for investigators, and 1.75 hours of REDCap consultations were reported in Q1. There were 156 new REDCap projects/data instruments (with a total of 2,574 projects/data instruments), and 135 new REDCap service inquiries. The total number of current TriNetX users was 391 in Q1 and there were 4,081 new TriNetX inquiries, with 0 new TriNetX logins but there were 7 data set requests. CRDEB reported no practice/policy changes in Q1, nor were there any professional development events reported for Q1.

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

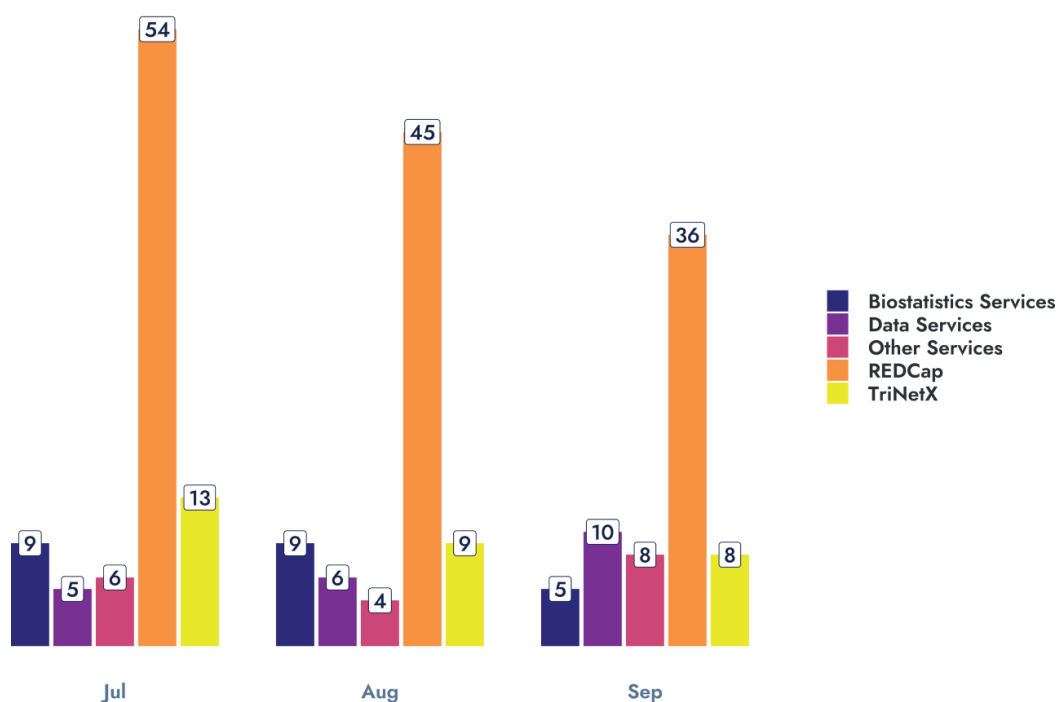


Figure 4. CRDEB iLab Core Management System services logged by month and service type.

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 60 BMIR-related inquiries, 17 new CRDEB consultations, 3 sample size/power consultations, 11 new statistical analysis consultations, and 7 new clinical study design consultations in Q1. Additionally, 424.75 hours were dedicated to biostatistics consultations. 3 GIS analysis consultations were reported for Q1.

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

CRDEB contributed to 7 external funding proposals (totaling over \$2.3 M) in Q1. Of these 7 external funding proposals, 5 were stand-alone proposals (totaling over \$648K) and 2 were in collaboration with other cores (totaling over \$1.6M); (1) CEO, CRRF, Admin, and (2) CEO & Admin.

CRDEB had 7 external funding awards supported (totaling over \$6 M) in Q1. Of these 7 external funding awards, 1 was a stand-alone funded award (\$49K) and 6 were supported awards in collaboration with other cores (totaling just under \$6M); Admin (3), Pd (1), Admin and PD (1), Admin and CRRF (1).

CRDEB reported 6 presentations supported by WVCTSI and contributions to 10 linked publications, 2 in collaboration with other cores.

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 13 new custom IDR dataset requests, 9 requests for updates to previous IDR datasets, and 8 IDR projects reported as completed in Q1. There were 327 hours spent on new data requests, 59 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).

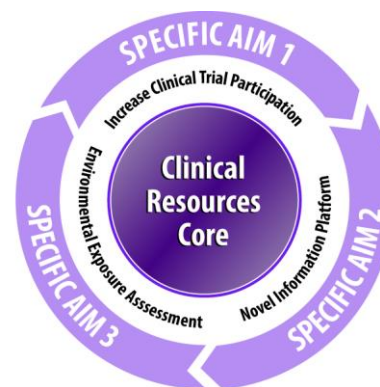
Key Recommendations to Clinical Research Design, Epidemiology & Biostatistics Core

- Consider whether REDCap projects should continue to be created for non-WVCTSI investigators in the context of the current annual target being substantially exceeded.
- Consider whether the frequency of professional development events is appropriate in the context of no such events occurring during this 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 10 external funding proposals (totaling over \$9.5 M) in Y9Q1. CRRF received 33 external funding awards (over \$2.2 M). CRRF contributed 2 presentations and 0 linked publications. Figure 5 shows the number of CRRF services monthly across the current reporting period by category, with COE Registration-related services most frequent but far less than the number of studies in OnCore.



By the Numbers: Clinical Research Resources Facilities

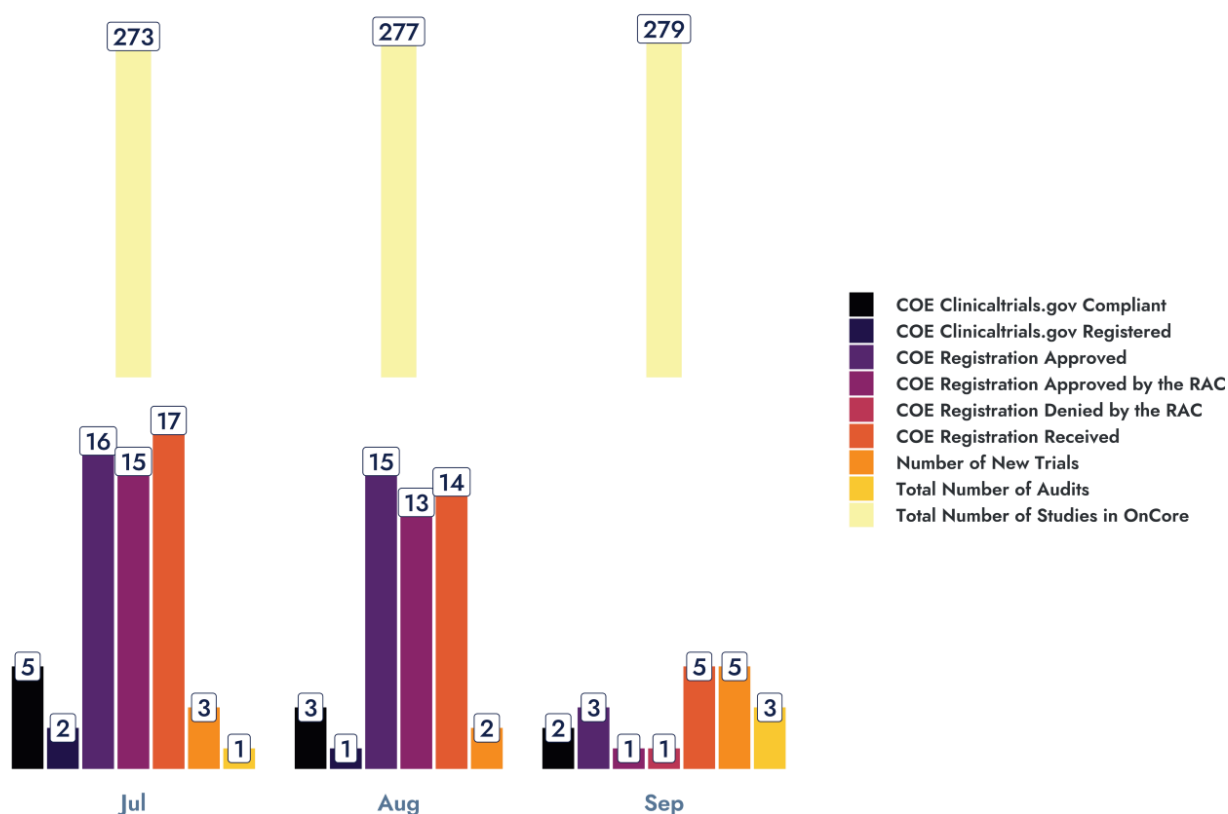


Figure 5. CRRF services by month and service type.

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 107 unique instances of support to non-WVCTSI studies in the form of regulatory assistance (39), study coordination (29), accounting (37), or quality assurance audits (2) in Q1. Within the expanded activities by CTCOE (established Q2Y8) which included Registration, a Risk Assessment Committee, and an Appeals Committee; there were 34 trials registered, 28 trials reviewed, and 29 approved by the risk assessment committee. Additionally, CRRF supported 4 new Early Stage PI's with

industry or WVCTSI-initiated funding, and 7 trials in a new research area. A total of 212 participants were recruited, with 6 more completing a study. CRRF had 19 TriNetX study offers and 9 accepted offers, and 0 studies were activated this quarter.

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 153 ECHO sites reported in Q1. This included 3 new ECHO sites: WVU Center for Excellence in Disabilities, Raleigh Boone Medical Center, and South Charleston Pediatrics. There was 1 new partner organization reported in Q1 titled PBRN Project: International Medical Graduates (IMGs) at the Crossroads: Ethics of Immigration Policy and Health Care in Underserved Areas (Davidson).



During Q1, 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 7 networking opportunities: (1) 2020 NAPCRG PBRN Virtual Conference, (2) FACTS Women at Work Podcast Listening Event, (3) WV Women Moving Forward Virtual Summit, (4) BeWell Presentation, (5) In Focus Series, (6) COVID-19 Response Echo Sessions, and (7) Design Studio. There were 2 Community Advisory Board meetings; one on 7-31-2020 ad hoc CAB meeting to discuss the role and input into the NOSI 121 Supplement grant opportunity to increase COVID-19 testing around WV and one quarterly CAB meeting on 9-23-2020. There was 1 mentored investigator reported in Q1.

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

There were 10 new, 42 ongoing, 3 completed WVPBRN projects, and of the 7 projects that were reviewed 7 were accepted in Q1. There were 321 Project Development and Success services, 216 Project Implementation services, 11 Community Engagement and Training services, 4 new Ideas on Deck services, 37 hours of ECHO services, 20 Consultation services, 41 hours of services for WVPBRN Activities, 1 funding opportunities were identified, 4 ongoing CEO projects, 0 new ECHO Project, and 37 services for products reported during Q1.

CEO had 10 supported external funding proposals (totaling over \$13.6M) in Q1. Of these 10 supported external funding proposals, 7 were stand-alone proposals (totaling \$7M) and 3 were in collaboration with other cores (totaling over \$6.6 M); (1) CREDB, Admin, CRRF, (2) Admin & CRRF, (3) CRDEB & Admin.

CEO had 5 external funding awards supported (totaling over \$2 M) in Q1, none of which were in collaboration with other cores.

CEO contributed to 1 linked publication and no presentations were reported in Q1.

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

In Q1 there were 56 Research Translation and Dissemination services provided. 1 CEO Project Policy Brief and 2 internal practice changes (CEO leadership change and ECHO polling to track satisfaction and value) were reported.

By the Numbers: Community Engagement & Outreach



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

Note that Figure 6 visualizes services as logged in iLab at the time of evaluation data collection. Arrows point to drilled down visualization of services for products by type of product. CEO continues to fine-tune their utilization of iLab to conform with WVCTSI SOPs and numbers reported in the narrative here are based on core personnel data reports rather than iLab only data.

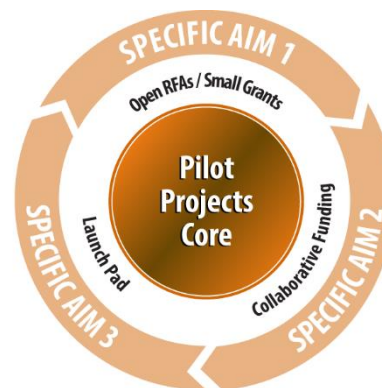
Key Recommendations to Community Engagement & Outreach Core

- Consider capacity and opportunities to mentor additional investigators.
- Continue to work to align core personnel practices with WVCTSI SOPs for iLab data entry.
- 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 reported a reversion in awarding categories this quarter from the previous quarter's new pilot grant funding categories of Biostart, Pop-Up COVID 19, and A1Competition, back to Small Grant and Open, while retaining Biostart. In total, Pilot received 38 applications (32 from WVU, 6 from Marshall), including 19 from ESIs. No grant awards were reported. Pilot provided no workshops, but 18 consultations. The Pilot core contributed to 5 publications this quarter (2 with the PD core) and 4 presentations (1 with CRRF core).



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

There were 35 active Pilot projects addressing critical health issues in Y9Q1. Additionally, the Pilot Core contributed to over \$9.8 M in external grant proposals and over \$900 K in external grants awarded.

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 1.

Key Recommendations to Pilot Projects Core

- Identify barriers and work to increase submissions of pilot project applications from partner institutions outside of WVU.
- 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.

Out of 1,278 total iLab users, 244 individuals requested 675 services in Q1. There were 70 new investigator development service requests through iLab. There were 0 reported orientations or consultations provided to investigators new to WVCTSI.

Additionally, there were 19 trained mentors in the SACS program in Q1, as well as 1 female clinician scientist being mentored. There was 2 special event/program for women in science in Q1 titled WVCTSI FACTS, which partnered with ORGE to offer two Women at Work Podcast Sessions.



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 3 full team meetings for each scholar, as well as 3 professional development activities: (1) An orientation was provided to the research scholars and their primary mentors on August 17, (2) Richa Tripathi: AAN conference- abstract presentation, MDS conference- abstract presentation, Parkinson Disease Group talk in community, and (3) Aisha Rizwan: Citi Biomedical and Socioeconomical Training Certifications.

There was 3 CTS Certificate enrolled, two of which were new students, and had 2 applications received. WVU MS in CTS had a total enrollment of 27, with 3 applications received (1 accepted/offer extended) and had 2 students complete the program in Q1. MU MS in CTS had 4 current enrollments with 1 new student, and 2 applications received. CTS PhD program had 8 current enrollments with 0 degree conferred during Q1. Education programming reported no new academic courses, workshops, C/T research seminars, or unique participants in educational programming.

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

The Professional Development core contributed to 16 external funding proposals (over \$8 M); 9 of which were stand-alone proposals (totaling over \$2.9M) and 7 of which were collaborative with singular cores (totaling over \$5M): ADMIN (3), Pilots (2), CRRF (1) and TECH (1).

The Professional Development core had 13 external funding awards supported (totaling over \$4.3 M) in Q1. Of these 13 external funding awards, 7 were stand-alone funded awards (totaling over \$1.2M) and 6 were supported awards in collaboration with other cores (totaling over \$3.1M); TECH (1), CRDEB (1), CRRF (1), Admin and CRDEB (1), Tech and Pilot (1), and T&E (1) .

The Professional Development core reported 3 presentations supported by CTR Award and 8 linked publications.

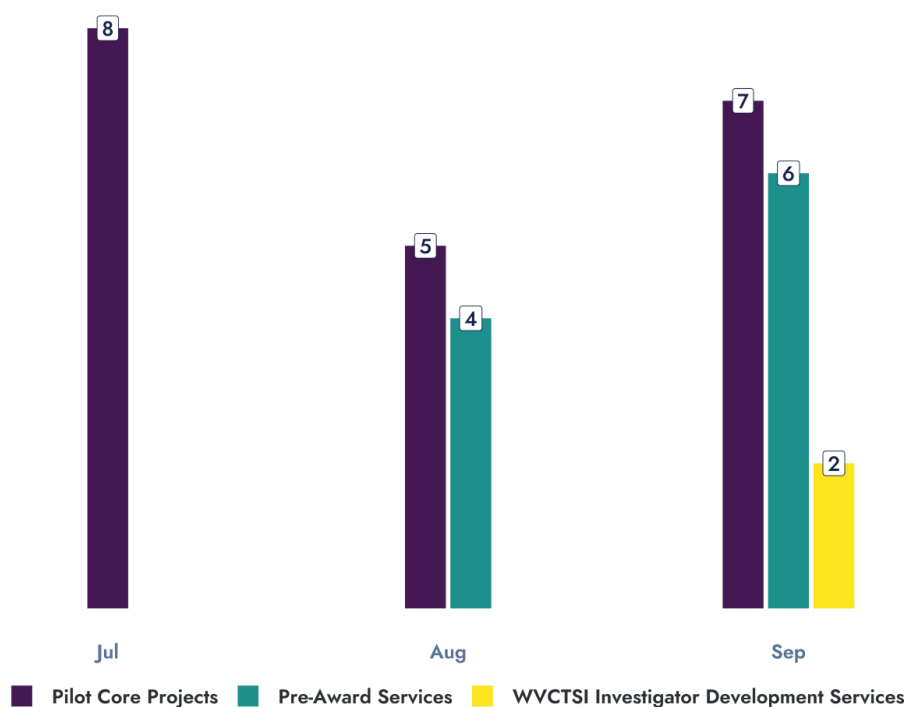
By the Numbers: Investigator Development Services

Figure 7. Investigator development services per service category as logged in iLab.

Figure 7 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.
- Consider whether educational programming is sufficient in the context of no new academic courses, workshops, C/T research seminars, or unique participants in educational programming in Q1.

Technology and Resources for Core Laboratories Core

The Technology and Resources for Core Laboratories (TRCL) core contributed to 7 external funding proposals totaling over \$9.5 M, and 7 external awards totaling over \$1.4 M. TRCL contributed 2 publications during Y9Q1.

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 80 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 were 0 genomics studies, 19 Illumina projects (17 WVU, 2 MU), and 16 Illumina runs (9 WVU, 7 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.

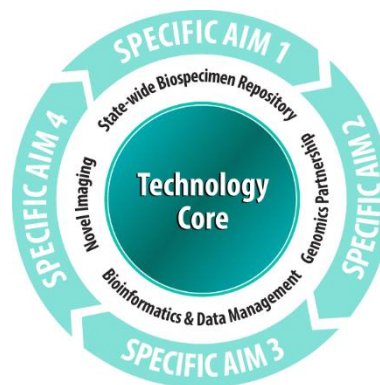
One educational session with 3 total attendees was provided.

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 234 hours for MicroCT across 4 projects, and 12 hours of MRI across 2 projects. Of note, this was the only quarter in which a patent was reported. TRCL provided 7 educational sessions attended by a total of 6 participants. No disclosures were reported.

Key Recommendations to Technology and Resources for Core Laboratories Core

- Use Year 8 metric data in all metrics spreadsheet (Excel) distributed with this report to identify Year 9 annual targets for metrics that do not yet have targets identified.
- Consider whether additional efforts should be directed toward genomics studies.
- 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”*.



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 continued communicating with key contacts to refine metrics for increased reporting accuracy, with CRRF having the most significant updates. TEC worked with CRRF to improve the accuracy of the data visualization for quarterly reports. TEC identified all publications linked to WVCTSI grant numbers directly from NCBI. TEC provided an updated list of publications that potentially should be linked, which list is currently being reviewed by other cores. 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.

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. 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. 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 4th Quarter of Y8 was disseminated in Q1 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 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 Q1, MU reported 2 peer-reviewed publications. MU submitted 15 external funding proposals and had 6 funded awards. MU collaborated with many WVCTSI cores in Q1: Marshall submitted 6 pilot grant applications, 3 open grants and 3 small grants, attended one consultation, 6 active pilot grant projects (1 in collaboration with WVU). Marshalls MS in CTS received 2 new applications and enrolled 1 new student this quarter, and the PD core provided an orientation to their research scholars and mentors. MU reported 0 genomic studies, 7 Illumina projects, and 7 runs (Illumina sequencing lanes). MU collected 139 biospecimen samples and utilized 9. MU currently has 51 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 Q1, WVSOM reported 1 peer-reviewed publication and 3 presentations, 2 at West Virginia Osteopathic Medical Association, 1 at Healthiest Cities and Counties Challenge Affinity Group and 1 pending at the WVRHA 2020 virtual annual conference. They submitted 4 funding proposal and received 1 funded award. WVSOM did not recruit investigators during Q1. WVSOM had 12 student opportunities for C/T Research, 5 students involved in summer research projects, and participated in 2 Posters/exhibits/promotional events. WVSOM had 2 community participatory research projects and 5 open collaborative CTS projects outside the WVPBRN. WVSOM housed 13 REDCap users (6 active), an increase from last quarter. WVSOM membership was 85.

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 Q1, CAMC did not have publications or presentations funded by WVCTSI and did not submit any funding proposals. CAMC received 1 Biostatistics consults, attended 4 journal clubs, and delivered 3 workshops/courses/seminars/retreats. CAMC had 16 REDCap users (4 active users) and 4 iLab users at the end of Q1. CAMC has 50 members.

National Institute for Occupational Safety and Health (NIOSH)

National Institute for Occupational Safety and Health (NIOSH) did not report any quarterly evaluation data this cycle

Veteran Affairs Medical Centers (VAMC)

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

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

- Use Year 8 metric data in all metrics spreadsheet (Excel) distributed with this report to identify Year 9 annual targets for all appropriate metrics.
- 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.