



Audit of the Office of Justice Programs National Institute  
of Justice Using Artificial Intelligence Technologies to  
Expose Darknet Opioid Traffickers Grant Awarded to  
the West Virginia University Research Corporation,  
Morgantown, West Virginia



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**SEPTEMBER 2022**

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Redactions were made to the full version of this report for privacy reasons. The redactions are contained only in Appendix 5, the grantee's response, and are of the names of individuals and an organization.

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# EXECUTIVE SUMMARY

## **Audit of the Office of Justice Programs National Institute of Justice Using Artificial Intelligence Technologies to Expose Darknet Opioid Traffickers Grant Awarded to the West Virginia University Research Corporation, Morgantown, West Virginia**

### **Objectives**

The Office of Justice Programs (OJP) National Institute of Justice (NIJ) awarded the West Virginia University Research Corporation (WVURC) a \$985,950 grant under its Artificial Intelligence (AI) Technology Applied Research and Development for Law Enforcement Applications solicitation. The objectives of this audit were to determine whether costs claimed under the grant were allowable, supported, and in accordance with applicable laws, regulations, guidelines, and terms and conditions of the award; and to determine whether WVURC demonstrated adequate progress towards achieving program goals and objectives.

### **Results in Brief**

WVURC has met important award milestones and objectives but needs to address certain grant performance and financial management issues. WVURC needs to enhance its monitoring of research team progress so that the project remains on track and results in an effective software prototype. WVURC also needs to address gaps in the conflict of interest (COI) disclosure process applied to those working on the grant. WVURC lacked NIJ's approval to modify the award budget, resulting in \$299,044 in unallowable subaward payments.

### **Recommendations**

Our report contains 10 recommendations for OJP. We requested a response to our audit report from WVURC and OJP. These responses can be found in Appendices 5 and 6, respectively. Our analysis of those responses is included in Appendix 7.

### **Audit Results**

NIJ awarded grant number 2018-75-CX-0032 to WVURC to design and develop an intelligent system named AlphaDetective that leverages artificial intelligence technology advances to automate the analysis of online data and provide timely investigative leads to law enforcement to help identify opioid traffickers on the dark web. The grant began in January 2019 and is slated to end in December 2022. Up to June 1, 2022, WVURC drew down a cumulative amount of \$739,994 in award funds.

### **Program Goals and Reporting**

The research team achieved planned program milestones and developed several sub-components for AlphaDetective. We identified no indications that the research team will not achieve the stated goals and objectives of the grant by the end of the award's performance period. However, WVURC relied solely on the research team's principal investigators (PI) to monitor the program and report on program progress. WVURC reviewed progress reports before submitting to NIJ but did not verify the information in the progress reports.

We further found that the success of AlphaDetective will ultimately depend upon NIJ and WVURC efforts to test and use the AlphaDetective prototype.

### **Compliance with Special Conditions**

The research team published in many research journals. Yet, WVURC was not submitting award-related publications to NIJ prior to or simultaneous to publication, and publications listed did not have the required statements in the appropriate location of the

document. We also found WVURC lacked records demonstrating that those designated as award points of contact completed required training. Further, we had concerns that NIJ did not require a signature and date in the Research and Evaluation Independence and Integrity Attestation document required of the grantee. Therefore, we could not confirm that the Attestation was certified and applicable.

## **Conflict of Interest Disclosure Process**

WVURC administers a COI disclosure process for key award officials. Our analysis of WVURC's COI disclosure process identified several gaps in coverage due to unclear questions and definitions. WVURC's COI measures also did not detect five grant publications in which there were listed co-authors affiliated with foreign research institutions on the U.S. government's Entity List, which is administered by the U.S. Department of Commerce and identifies entities determined to have been involved, are involved, or pose a significant risk of being or becoming involved in activities contrary to the national security or foreign policy interests of the United States. Without grantees receiving clarification on how to identify and disclose such matters, the knowledge gained or technology developed from taxpayer-funded research could be at risk for being exported to support foreign governments or non-state actors with interests adversarial to the United States.

## **Financial Management and Expenditures**

Several WVURC financial management policies and procedures, while adequate in terms of substance, did not have evidence of certain internal control mechanisms, such as when the policy or procedure was: (1) first adopted, (2) previously revised, (3) most recently reviewed, or (4) approved by a supervisory official with a date and signature.

Despite one PI entering into a subaward agreement with WVURC in July 2019, WVURC did not submit a required budget modification that would authorize making such subawards, resulting in \$299,044 in unallowable costs.

# Table of Contents

<b>Introduction</b> .....	1
The Grantee .....	1
OIG Audit Approach .....	2
<b>Audit Results</b> .....	3
Program Performance and Accomplishments.....	3
Program Goals and Objectives .....	3
Performance Reports.....	5
Compliance with Special Conditions.....	7
Conflict of Interest Disclosure Process.....	7
Grant Financial Management .....	10
Grant Expenditures .....	10
Personnel Costs .....	11
Fringe Benefits Costs .....	11
Subgrantee Costs .....	11
Supplies, Equipment, and Accountable Property Costs.....	11
Travel Costs .....	12
Indirect Costs .....	12
Budget Management and Control .....	12
Drawdowns .....	13
Federal Financial Reports.....	13
<b>Conclusion and Recommendations</b> .....	15
<b>APPENDIX 1: Objectives, Scope, and Methodology</b> .....	16
Objectives .....	16
Scope and Methodology.....	16
Internal Controls.....	17
<b>APPENDIX 2: Schedule of Dollar-Related Findings</b> .....	18
<b>APPENDIX 3: OIG Analysis of WVURC Financial Management Policies and Procedures</b> .....	19
<b>APPENDIX 4: Grant 2018-75-CX-0032 Publications with Co-Authors Affiliated with Organizations Listed on U.S. Government Entity List</b> .....	20
<b>APPENDIX 5: West Virginia University Research Corporation Response to the Draft Audit Report</b> .....	21
<b>APPENDIX 6: Office of Justice Programs Response to the Draft Audit Report</b> .....	25

APPENDIX 7: Office of the Inspector General Analysis and Summary of Actions Necessary to Close the Audit Report..... 31

# Introduction

Opioid trafficking involves the illicit importation, manufacturing, cultivation, distribution, and sale of opioids. This illicit trade has evolved alongside advances in contemporary technology, and the growing volume of opioid trafficking and sales online via anonymous crypto markets hosted on the dark web has posed significant new challenges to U.S. law enforcement agencies.<sup>1</sup>

The U.S. Department of Justice (DOJ) Office of the Inspector General (OIG) completed an audit of a grant awarded by the Office of Justice Programs (OJP), National Institute of Justice (NIJ) to the West Virginia University Research Corporation (WVURC) in Morgantown, West Virginia. As shown in Table 1, WVURC was awarded \$985,950 via this grant.

**Table 1**

**Grant Awarded to West Virginia University Research Corporation**

Award Number	Award Date	Project Period Start Date	Project Period End Date	Award Amount
2018-75-CX-0032	08/31/2018	01/01/2019	12/31/2022 <sup>2</sup>	\$985,950
<b>Total:</b>				<b>\$985,950</b>

Source: JustGrants

The grant sought to design and develop AlphaDetective, an Artificial Intelligence (AI)-based system to link dark web opioid traffickers to specific Internet users and provide timely investigative leads to law enforcement agencies. Law enforcement, in turn, could use these leads to identify opioid traffickers, collect forensic evidence, and disrupt opioid trafficking networks. The AI system could also be calibrated for use on other law enforcement initiatives, such as combating gang violence and human trafficking.

## The Grantee

WVURC was established in 1985 as a not-for-profit entity designed to support research at West Virginia University (WVU). WVURC provides evaluation, development, patenting, management, and marketing

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<sup>1</sup> The term “dark web” refers to a part of the Internet that cannot be accessed through standard web browsers and requires specific software, configurations, or authorization. Although the dark web may be used for legitimate purposes, the anonymity it provides can facilitate criminal activity, including the trafficking of drugs, firearms, weapons of mass destruction, child sexual abuse material, malware, and other illicit goods and services. See U.S. Department of Justice Office of the Inspector General, [Audit of the Federal Bureau of Investigation’s Strategy and Efforts to Disrupt Illegal Dark Web Activities](#) Report 21-014 (December 2020).

<sup>2</sup> The research team requested a no-cost extension citing the COVID-19 pandemic. In September 2021, the NIJ Grant Manager approved the extension and moved the project end date from December 31, 2021, to December 31, 2022, expanding the project period’s total length to 4 years.

services for inventions created by WVU faculty, staff, and students. WVURC also administers research funds awarded by external agencies.

Over 25,000 students are enrolled in WVU's main campus located in Morgantown, West Virginia. In FY 2021, WVU received \$203 million in external funding for research and other sponsored programs, including \$110 million from the federal government.

The grant supports a research team led by two Principal Investigators (PI). One PI is a WVU professor. The second PI was a WVU professor at the outset of the project but has since been affiliated with other universities. Thus, while the grant was awarded to WVU, students working with the second PI at these other universities also participated on the research team via WVURC subawards.

## **OIG Audit Approach**

The objectives of this audit were to determine whether costs claimed under the grant were allowable, supported, and in accordance with applicable laws, regulations, guidelines, and terms and conditions of the award; and to determine whether WVURC demonstrated adequate progress towards achieving the program goals and objectives. To accomplish these objectives, we assessed performance in the following areas of grant management: program performance, financial management, expenditures, budget management and control, drawdowns, and federal financial reports.

We tested compliance with what we considered to be the most important terms and conditions of the grant. The DOJ Grants Financial Guide (Financial Guide), Title 2 C.F.R. part 200 (Uniform Guidance) and the award documents contain the primary criteria we applied during the audit. The results of our analysis are discussed in detail later in this report. Appendix 1 contains additional information on this audit's objectives, scope, and methodology. The Schedule of Dollar-Related Findings appears in Appendix 2.

# Audit Results

## Program Performance and Accomplishments

To determine whether WVURC demonstrated adequate progress towards achieving the program goals and objectives of the award, we: (1) reviewed the award solicitation and pertinent award documents, (2) interviewed appropriate representatives of the research team, WVURC, and NIJ, (3) participated in a prototype system demonstration with the research team, (4) assessed the accuracy and timeliness of progress reports, (5) reviewed research team publications on AlphaDetective support technologies, and (6) reviewed WVURC's compliance with award special conditions.

## Program Goals and Objectives

The original grant solicitation had two overarching goals. The first goal was to support innovative, early-stage research relevant to criminal justice application by introducing the rapidly evolving AI research community to criminal justice challenges. The second goal was to support developing AI-based tools for criminal justice agencies, particularly at the state and local level. The resulting grant, Award 2018-75-CX-0032, had three deliverables: (1) a technology prototype to be delivered to NIJ at the end of the award for third-party evaluation, (2) a final research report, and (3) all relevant data sets resulting from grant-funded activities and associated files that can be used in future efforts to reproduce or extend the scientific value of the research completed.

To assess whether WVURC is on track to achieve the stated award goals and objectives, we interviewed appropriate WVURC and research team personnel, to include both PIs and supporting research team members. We also discussed program accomplishments and oversight practices carried out by the responsible NIJ Grant Manager. Additionally, we reviewed WVURC progress reports as well as Grant Adjustment Notices documenting approved budget modifications and changes to award scope. We considered applicable award milestone objectives and the research team provided us a demonstration of various AlphaDetective components. Table 2 details, by award year, the research component, and associated milestone goals in accordance with the research team's program narrative.

**Table 2**

**Timeline and Milestones for Award 2018-75-CX-0032**

AlphaDetective Research Component	Year 1	Year 2	Year 3
1. Intelligent framework for darknet user profiling Milestone 1: <i>iDarkParser</i> (Year 1: Month 1-6) Milestone 2: <i>iDarkProfiler</i> (Year 1: Month 7-12)	√		
2. Automatic detection of opioid users on social media in surface net Milestone 3: <i>iDetector</i> (Year 2: Month 1-9)		√	
3. Mapping darknet users to surface net and studying their trafficking networks Milestone 4: <i>iDeepLearner</i> (Year 2: Month 10-12) Milestone 5: <i>iPortrait</i> (Year 3: Month 1-4) Milestone 6: <i>iNetworking</i> (Year 3: Month 5-12)		√	√

Source: WWURC

WWURC and the research team provided evidence that demonstrated they met or were otherwise on track to meet the above milestone goals. In particular, the research team provided a robust demonstration of four AlphaDetective components they have developed.

Considering that the project is meeting milestones and appears to be nearing completion, we asked NIJ what it plans to do after accepting delivery of software prototypes such as AlphaDetective. An NIJ official stated that NIJ usually subjects such a deliverable to a preliminary evaluation, to include source code and data set review. However, NIJ may not always be able to conduct further software testing due to resource constraints. Moreover, as the research team developed AlphaDetective to leverage AI capabilities, NIJ will need to validate research results and evaluate whether the prototype deliverable should be subject to further testing. Such testing would ensure that any software resulting from AlphaDetective comports with evolving federal guidelines and principles pertaining to data collection, reliability, and privacy.<sup>3</sup> We recommend that OJP assess its testing resources to plan for the appropriate evaluation of AlphaDetective

<sup>3</sup> AI technology has been the focus of various federal agency oversight frameworks, see [U.S. Government Accountability Office, Artificial Intelligence: An Accountability Framework for Federal Agencies and Other Entities](#), GAO-21-519SP (June 2021). Executive Order No. 13960, *Promoting the Use of Trustworthy AI in the Federal Government* (December 2020), directed federal agencies to ensure that the design, development, acquisition, and use of AI is done in a manner that protects privacy, civil rights, and civil liberties. Office of Management and Budget (OMB) Memorandum M-21-06 (November 2020), *Guidance for Regulation of Artificial Intelligence Applications*, issued regulatory and non-regulatory approaches to AI applications developed and deployed outside of the federal government, including 10 principles of AI stewardship.

source code and data sets after receipt of the prototype deliverable.

While AlphaDetective is intended to be used by law enforcement agencies to help identify opioid traffickers on the dark web, we found that the success of AlphaDetective depends upon how WVURC, and ultimately NIJ, address the following needs:

- ***End-User Input.*** The award encouraged—but did not require—the research team to collaborate with law enforcement agencies in an effort to better understand the challenges these agencies face and how they would be able to use AlphaDetective. While the research team provided an AlphaDetective demonstration to a state intelligence center interested in enhancing anti-drug operations, the research team has largely developed the system without input from law enforcement. One PI stated that the research team plans to engage with a local police department on how to use AlphaDetective. A plan to obtain input from law enforcement agencies would help address the risk that the award would yield a software prototype that could not be used by law enforcement.
- ***Access Controls to AlphaDetective as a Law Enforcement Tool.*** AlphaDetective is designed to detect opioid traffickers on the dark web using certain patterns. During the award selection process, NIJ identified the possibility that if drug traffickers become aware of the specific patterns analyzed by the software, AlphaDetective’s effectiveness could be compromised. Moreover, without access controls, unauthorized users could use or modify the system’s underlying technologies or sub-components for impermissible purposes. AlphaDetective software and source code will need to be safeguarded and restricted to appropriate law enforcement end-users.
- ***AlphaDetective Deployment Strategy.*** A plan to guide how to best disseminate a final version of AlphaDetective to law enforcement agencies would facilitate end-user receipt of the software and assist in gathering leads for opioid trafficking investigations.

We recommend that OJP work with WVURC to ensure the effective testing of the AlphaDetective prototype and help guide its appropriate use. Efforts to ensure AlphaDetective’s effective testing should prompt robust research team engagement with law enforcement to receive end-user software feedback. The somewhat conflicting needs of providing resulting software to law enforcement who might need it most must be balanced with the need to restrict AlphaDetective’s access to only appropriate law enforcement users.

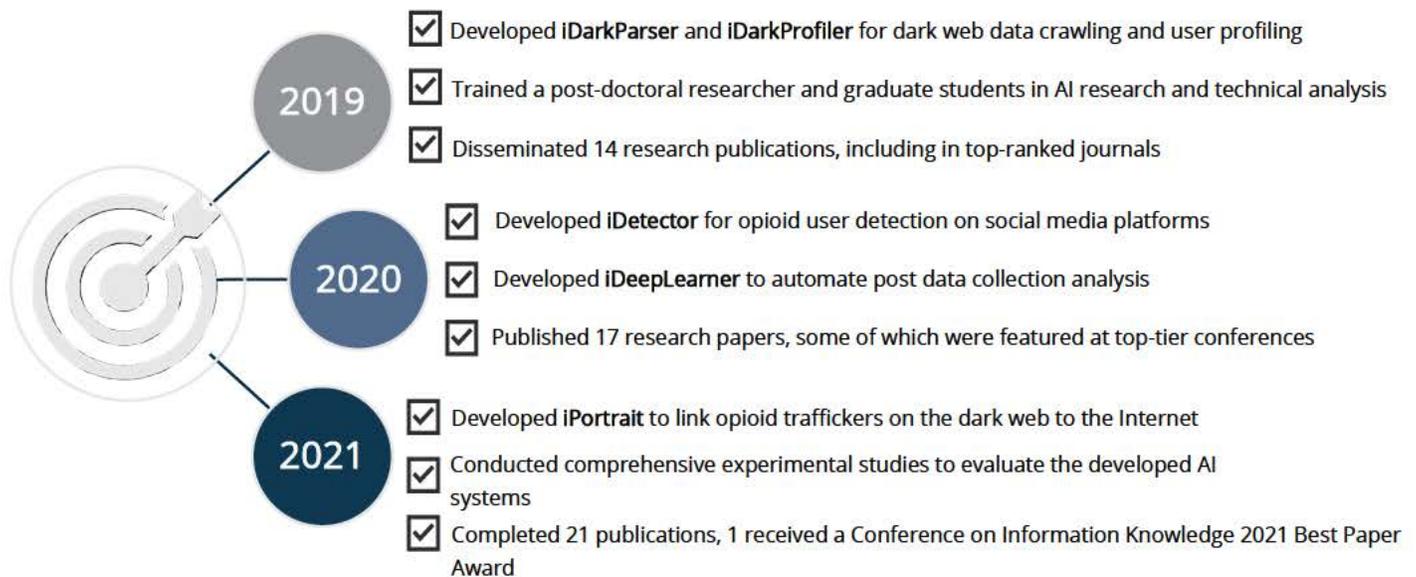
## Performance Reports

The Financial Guide requires that recipients submit semi-annual performance reports within 30 days after the end of each reporting period. Early in the project, WVURC did not submit the semi-annual performance reports on time. However, by the time of our audit, WVURC was submitting performance reports on time. As a result, we make no recommendation. The Financial Guide also requires that the funding recipient maintain valid and auditable source documentation to support all data collected for each specified performance measure. To verify the performance reports, we sampled four performance milestones from the six most recent reports. We then traced the items to WVURC supporting documents and received a demonstration to confirm that the research team developed AlphaDetective system components as detailed

in the sampled reports. Figure 1 lists a sample of critical project milestones met and various system components developed by the research team as of December 2021.

Figure 1

Research Team Accomplishments as of December 2021



Source: WVURC

While we found that the milestone achievements tested in our sample were accurate, there were some achievements not in our sample that WVURC could not readily support. For example, despite progress reports detailing that the PIs engaged with local law enforcement to disseminate results from testing, we could not find documentation to support these efforts.

WVURC relies solely on the PIs to conduct programmatic monitoring and to report on award progress. The PIs themselves prepare semiannual progress reports and submit them to WVURC's Office of Sponsored Programs (OSP). In turn, OSP submits the progress reports to NIJ. We found that OSP relied on these reports to remain informed on the project's status and did not verify the submitted information. This meant that WVURC did not actively monitor the progress of research team members at WVU or at the subgrantee institutions.

According to the Uniform Guidance, award recipients must monitor federal award activities to assure compliance with applicable requirements and that performance expectations are being achieved. The Financial Guide also makes award recipients responsible for monitoring subgrantees. We recommend that OJP work with WVURC to establish protocols to check and verify reported research team progress and accomplishments.

## Compliance with Special Conditions

Special conditions are the terms and conditions included with the award that the grantee must meet. We evaluated the special conditions and selected a judgmental sample of the requirements that we deemed significant to award performance and are not addressed in another section of this report. We evaluated eight special conditions and identified two instances where WVURC was not in compliance with the special condition and one concern regarding NIJ's acceptance of an unsigned and undated attestation.

- ***Publications.*** One special condition required that WVURC provide NIJ with copies of all publications resulting from the award. All such publications required a statement on the first page that the project was supported by DOJ and that the content did not necessarily reflect DOJ opinions. We found that while the grantee listed the research team's publications in its progress reports, there was no evidence the grantee submitted these publications to NIJ. Further, while the publications included statements about DOJ's support of the project, the statements were not prominently placed on the first page and did not have the required disclaimer that the publication's content does not necessarily reflect the opinions of DOJ.
- ***Training.*** Another special condition required the grantee Point of Contact (POC) and Financial Points of Contact (FPOC) to complete OJP financial management and grant administration training within 120 days after acceptance of the award. WVURC could not provide evidence that the POC completed the training, and NIJ stated it had no record of this either. The FPOC completed training, but this training took place in 2020, after more than 120 days had elapsed since the date of award acceptance.
- ***Research Attestations.*** NIJ required that WVURC submit for its approval a Research and Evaluation Independence and Integrity (REII) attestation before it could use award funds. NIJ relies on REIIs from applicants to demonstrate research and evaluation independence and integrity. While NIJ received the REII attestation in January 2019, the attestation was not signed or dated. According to an NIJ official, REIIs need not be signed or dated. Because of this, we could not confirm that the REII was properly certified, relevant, and thus applicable to the subject award.

We recommend that OJP work with WVURC to implement procedures that: (1) require WVURC submit future award-related publications to NIJ prior to or simultaneous to their publication, and (2) future award-supported publications contain the required statements in the appropriate location of the document. We also recommend that OJP ensure that WVURC: (1) has its POC complete required financial and grant administration training and (2) provide signed and dated REII attestations that cover the scope of award-funded activity.

## Conflict of Interest Disclosure Process

Non-federal entities must use Federal funds in the best interest of the award program and remain free of undisclosed personal or organizational conflicts of interest, both in fact and in appearance. The Financial Guide requires that grantees disclose in writing any potential conflict of interest to the awarding agency or pass-through entity.

WVURC provided COI Disclosure Forms (COI Form) to the PIs. Based on a review of COI Forms submitted by the PIs, we identified the following concerns pertaining to WVURC COI Forms and how the research team understood and completed the forms:

- ***COI Form Only Covers WVU Institutional Responsibility Nexus.*** The COI Form requires disclosure of more than \$5,000 in remuneration related to the submitter's WVU's institutional responsibilities. Depending on the circumstance, the submitter might reasonably interpret that remuneration received from another institution is not related to their respective WVU responsibilities.
- ***COI Form Does Not Clearly Cover Foreign Educational Institutions.*** The COI Form also exempts disclosing income received from "an institution of higher education as defined at 20 U.S.C. § 1001(a) or a research institute that is affiliated with [such] an institution of higher education." Title 20 U.S.C. § 1001(a) defines "institution of higher education" as an educational institution in any State, therefore inferring that it applies only to U.S.-based institutions. However, this definition is not explicitly stated on the COI Form, and a submitter might incorrectly interpret the educational-institution exception to encompass foreign institutions of higher education and thus not disclose remuneration derived from a foreign institution.
- ***COI Form Does Not Inquire About Foreign Collaboration.*** The COI Form does not specifically ask the submitter about foreign collaboration and support. If the submitter did in fact receive foreign collaboration and support, there is no explicit question asking about such, and the language in the rest of the form might not be interpreted by the submitter as compelling disclosure.
- ***COI Form Only Required by Research Team "Investigators."*** The COI Forms are only required for "investigators," which the form defines as anyone "responsible for the design, conduct, or reporting of research, regardless of their title or role on the project or the receipt of funding (this definition includes adjunct faculty, students, volunteers, subcontractors, consultants, collaborators, research coordinators, research assistants, and other research staff)." Despite this definition, the COI Form designates the PI as responsible for determining who is an "investigator" and thus required to complete COI Forms. A PI might not identify as an "investigator" a researcher who significantly contributed to a project for COI disclosure purposes. For example, the PIs for the grant-funded project did not identify a post-doctoral researcher or several graduate students as "investigators" even though these personnel helped research and thus appeared to have met WVU's "investigator" definition. As a result, these personnel did not complete COI Forms and provide assurances about their potential conflicts of interest.<sup>4</sup>

We recommend that OJP work with WVURC to strengthen its conflict-of-interest disclosure policies. To address this recommendation, WVURC should update its COI Form to account for gaps and confirm that all

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<sup>4</sup> We identified inconsistent interpretations of existing COI policies regarding whether a student should be considered an investigator on a sponsored research project. The WVU COI Office maintained that students and post-doctoral researchers may be considered "investigators," while WVURC's OSP said students and post-doctoral researchers are only considered "investigators" if they have a fellowship-type role.

AlphaDetective research team participants responsible for the design, conduct, or reporting of research have submitted such disclosures.

WVURC employed additional measures to identify undue foreign influence. These included denied party screenings, disclosure requirements for personal agreements with international entities, and regularly providing undue foreign influence awareness trainings on campus. These measures, however, did not identify or prompt disclosure that five grant-related publications listed co-authors with affiliations with foreign research institutions on the U.S. government's Entity List.<sup>5</sup>

The PIs provided to us additional information regarding these co-authoring collaborations and how such collaborations began. The PIs stated that their publications involved co-authors only as subject matter experts and had nothing to do with the co-authors' affiliation at the time of publication. The publications expressly listed the co-authors' affiliations, and the research team appropriately listed these publications to NIJ via progress reports. The PIs also stated they received no guidance regarding how to report co-authors affiliated with institutions on the Entity List. We did not find evidence of any wrongdoing, inappropriate knowledge transfers, or undue foreign influence stemming from these co-authorships or pertaining to the award on the part of the PIs or the AlphaDetective research team.

We discussed the co-author affiliations with an NIJ official, who agreed with this concern. This official confirmed that NIJ has not required disclosures from grantees that would enable NIJ to identify co-authors or other collaborators affiliated with parties on the Entity List. Also, this official stated NIJ could implement a policy addressing this matter and consult with other federal research agencies to determine how to best assess this type of situation.

We believe the co-authorship of award-supported publications with individuals affiliated with Entity List organizations requires further attention. By receiving and reviewing disclosures of such co-authorship affiliations from its research grantees, NIJ would be better able to help mitigate the risk that the knowledge gained or technology developed from taxpayer-funded research could be inappropriately exported to support foreign governments or non-state actors with interests adversarial to the United States. Moreover, research teams need clear guidance on how best to identify and report foreign collaborations and co-authors involved to some degree with their projects. Therefore, we recommend that OJP clarify the scope and nature of foreign activities and individuals that merit research grant recipient disclosure.

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<sup>5</sup> The Entity List (supplement No. 4 to part 744 of the Export Administration Regulations) is administered by the U.S. Department of Commerce's Bureau of Industry and Security and identifies entities determined to have been involved, are involved, or pose a significant risk of being or becoming involved in activities contrary to the national security or foreign policy interests of the United States. Appendix 4 lists the five grant publications we identified that included co-authors affiliated with an organization on the Entity List.

## Grant Financial Management

The Financial Guide requires that grant recipients and subgrantees establish and maintain adequate accounting systems and financial records that accurately account for award funds. To assess WVURC's grant financial management, we interviewed financial staff, examined policy and procedures, and inspected documents. We also tested areas we deemed relevant to grant management. Additionally, we did not identify internal control weaknesses or significant non-compliance issues related to federal awards in WVURC's Single Audit reports for fiscal years 2020 and 2021. These assessments provided evidence that WVURC maintained adequate accounting systems and applied unique accounting codes to track grant expenditures.

The System for Award Management (SAM) is a central repository for suspension and debarment actions taken by all federal government agencies. Persons or companies who have been suspended or debarred may be ineligible to receive or work on federal awards. Our search of the SAM database did not yield names of any suspended or debarred contractors, consultants, vendors, businesses, organizations, or other individuals who have received award funds. WVURC officials stated, and WVURC policies and procedures confirmed, that WVURC checks the SAM database regularly to verify that new or existing employees, contractors, consultants, sub-grantees, or vendors are not suspended or debarred from doing business with the federal government.

The Uniform Guidance makes non-federal entities that receive federal funds responsible for implementing sound management practices necessary to assure proper and efficient administration of such awards. We found WVURC maintained written policies and procedures related to the financial management of the grant. Yet, several of the policies and procedures we reviewed, while adequate in terms of substance, did not have evidence of certain internal control mechanisms, such as when the policy or procedure was: (1) first adopted, (2) previously revised, (3) most recently reviewed, or (4) approved by a supervisory official with a date and signature. Policies and procedures that are not developed consistently and do not include internal control mechanisms create a risk that those policies may not be consistently interpreted, reviewed, disseminated, or adhered to by grant recipient employees. As a best practice, we recommend that OJP work with WVURC to ensure that financial management policies and procedures pertaining to the management of the grant under review include appropriate internal control mechanisms.<sup>6</sup>

## Grant Expenditures

WVURC's approved grant budget included personnel, fringe benefits, travel, supplies, other direct costs, and indirect costs. To determine whether expenditures charged to the award were allowable, supported, properly allocated, and compliant with award terms and conditions, we developed a judgmental sample of 61 transactions representing approximately \$183,584 in award expenditures. We reviewed supporting documents for each sampled expenditure and compared them to the grant budget and accounting records.

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<sup>6</sup> Appendix 3 includes a list of the sampled policies and procedures and the results of our internal control mechanism testing.

## Personnel Costs

To test WVURC's personnel expenditures charged to the award, we judgmentally selected charges associated with payroll records for two nonconsecutive pay periods for seven research team members, including both the PIs. This sample design resulted in a total of 14 personnel expenditure transactions totaling \$21,272. For each, we verified whether costs captured in WVURC's financial records reconciled to effort certification reports and personnel costs approved for each research team member. We found that all personnel expenditure transactions within the sample tested were computed correctly, properly authorized, accurately recorded, and appropriately allocated to the award.

## Fringe Benefits Costs

To test WVURC's fringe benefit expenditures charged to the award, we judgmentally selected charges associated with fringe benefit records for two nonconsecutive pay periods for seven research team members, including both the PIs. This sample design resulted in a total of 10 fringe benefits expenditure transactions totaling approximately \$7,554. For each transaction tested, we compared costs captured in WVURC financial records with WVURC's negotiated fringe benefits rate agreement with the federal government. We verified that WVURC applied a rate within the terms of the negotiated agreement for fringe benefit expenditures tested and found that this sample was computed correctly, properly authorized, accurately recorded, and appropriately allocated to the award.

## Subgrantee Costs

The Financial Guide requires that primary award recipients adequately monitor subgrantees to ensure that they use subawards for authorized purposes and comply with federal program and award requirements, laws, and regulations. Additionally, subgrantees of federal awards must provide the primary recipient access to documents or other records pertinent to their subaward.

According to WVURC's Effort Reporting Guidelines, salaries should be charged to sponsored awards in a manner that reflects the actual effort expended by each person working on the award. Faculty, staff, students, and post-doctoral fellows whose salary is charged in whole or in part to a sponsored project must complete a self-certified effort report form on a semi-annual basis. Between the two subawards, we sampled 21 expenditures totaling \$140,915. This found that subgrantees properly supported, computed correctly, accurately recorded, and appropriately allocated most of the tested charges. However, prior to our draft report's issuance, the documentation for \$6,393 in payroll transactions that we were supplied lacked a certifying signature from the research team member or the PI on the corresponding effort report certification form. As a result, in our draft audit report, we recommended that OJP remedy \$6,393 in unsupported costs. In response to our draft report, WVURC supplied adequate documentation for these transactions, and therefore we closed this recommendation in this final audit report.

## Supplies, Equipment, and Accountable Property Costs

Our expenditure sample also included charges associated with supplies, equipment, and other accountable property. We judgmentally selected a sample of 15 miscellaneous grant expenditures, valued at \$13,514, across these budget categories. We traced expense data contained in invoices, compared expenditures to the approved budget, and assessed whether supplies, equipment, or accountable property reasonably

supported award goals and objectives. We found that these expenditures: (1) advanced award goals and objectives, and (2) were computed correctly, properly authorized, accurately recorded, and appropriately allocated to the award.

## Travel Costs

The award's approved budget included miscellaneous travel expenses for the research team to attend academic conferences and participate in collaborative meetings with state and local law enforcement agencies. Due to the COVID-19 pandemic, the research team suspended most travel plans and only charged a \$329 conference registration fee (which was subsequently held as a virtual conference) to the grant's travel costs budget category.<sup>7</sup> We determined this transaction was computed correctly, properly authorized, accurately recorded, and appropriately allocated to the award.

## Indirect Costs

Indirect costs are expenditures that an organization cannot readily assign to a particular project but are necessary to operate and perform the program. According to the Financial Guide, recipients that do not have an approved indirect cost rate may either negotiate an indirect cost rate with their cognizant federal agency or elect to charge a de minimis rate of 10 percent of modified total direct costs. WVURC negotiated an indirect cost rate agreement with the U.S. Department of Health and Human Services, and this agreement will span the duration of the project period. WVURC's indirect costs rate structure comprised of modified total direct costs, which includes personnel, fringe benefits, materials and supplies, travel, and other costs. We reconciled the indirect costs rates charged by WVURC to the award and verified that it applied a rate within the terms of the negotiated agreement.

## Budget Management and Control

According to the Financial Guide, the grantee is responsible for keeping an adequate accounting system, which includes the ability to compare actual expenditures or outlays with budgeted amounts for each award. Additionally, the grantee must initiate a Grant Adjustment Notice to modify the budget and reallocate funds among budget categories if it seeks to change category costs more than 10 percent of the total award amount.

A comparison of actual grant expenditures to the approved budget determined that WVURC transferred funds among grant budget categories in excess of 10 percent. Specifically, WVURC used grant funds to make two subawards to other educational institutions. The approved grant budget did not expressly authorize these subawards. As shown by Table 3, as of April 2022, these institutions collectively received \$299,044 via these subawards.

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<sup>7</sup> The research team maintains plans for travel as appropriate for conferences and collaborating with law enforcement agencies prior to the end of the project period on December 31, 2022.

**Table 3**

**Grant Number 2018-75-CX-0032 Subawards**

Subgrantee	Subaward Start Date	Subaward End Date	Subaward Amount (\$)	Total Subaward Payments as of April 2022 (\$)
Educational Institution 1	7/1/2019	10/7/2021	604,350	284,287
Educational Institution 2	11/1/2021	12/31/2022	266,242	14,757
Totals			<b>\$870,592</b>	<b>\$299,044</b>

Source: WVURC

WVURC initiated these grant subawards because one of the PIs—a subject matter expert deemed critical to the project—changed employment from WVU to two other educational institutions. NIJ informed WVURC in June 2019 of the need to submit a budget modification to reflect its subaward activity. While WVURC requested and received OJP approval to make subawards on account of the PI change of employment, it did not submit a budget modification request to account for the subawards.

As of April 2022, WVURC paid \$299,044 in subaward expenses. As the approved budget did not include this category of costs, we question and recommend that OJP remedy \$299,044 in unallowable costs. Our Subgrantee Costs section also identified \$6,393 of this amount to be unsupported.

### Drawdowns

According to the Financial Guide, an adequate accounting system should be established to maintain documentation to support all receipts of federal funds. If, at the end of the grant award, recipients have drawn down funds in excess of federal expenditures, unused funds must be returned to the awarding agency. According to WVURC officials, drawdowns normally occur on a weekly basis. We found that WVURC maintained procedures governing the drawing down of funds to include detailed steps that divided responsibilities between key personnel, which resulted in multiple layers of review and approval.<sup>8</sup>

As of June 1, 2022, \$739,994 have been drawn down by WVURC. To assess whether WVURC managed grant receipts in accordance with federal requirements, we compared a judgmental sample of the total amount reimbursed to the total expenditures in WVURC's accounting records and noted no discrepancies.

### Federal Financial Reports

According to the Financial Guide, recipients shall report the actual expenditures and unliquidated obligations incurred for the reporting period on each Federal Financial Report (FFR) as well as cumulative

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<sup>8</sup> The Grant Financial Management section of this report identified two WVURC policies governing the drawing down of funds that could be improved with including appropriate internal control mechanisms.

expenditures. To determine whether WVURC submitted accurate FFRs, we compared the four most recent reports to WVURC's accounting records and noted no discrepancies.

## Conclusion and Recommendations

WVURC has met important award milestones and objectives. Yet, WVURC needs to address certain grant performance and financial management issues. WVURC needs to enhance research team monitoring so that the project remains on track and results in an effective software prototype. AlphaDetective's success will ultimately depend upon NIJ and WVURC efforts to test and use the prototype. WVURC also needs to enhance the conflict of interest (COI) disclosure process applied to those working on the grant project. WVURC lacked NIJ's approval to modify the award budget, which resulted in \$299,044 in unallowable subaward payments. We provide 10 recommendations to OJP to address these issues.

We recommend that OJP:

1. Assess its testing resources to plan for the appropriate evaluation of AlphaDetective source code and data sets after receipt of the prototype deliverable.
2. Work with WVURC to ensure the effective testing of the AlphaDetective prototype and help guide its appropriate use.
3. Work with WVURC to establish protocols to check and verify reported research team progress and accomplishments.
4. Work with WVURC to implement procedures that: (1) require WVURC submit future award-related publications to NIJ prior to or simultaneous to their publication, and (2) future award-supported publications contain the required statements in the appropriate location of the document.
5. Ensure that WVURC: (1) has its POC complete required financial and grant administration training and (2) provide signed and dated REII attestations that cover the scope of award-funded activity.
6. Work with WVURC to strengthen its conflict-of-interest disclosure policies.
7. Clarify the scope and nature of foreign activities and individuals that merit research grant recipient disclosure.
8. Work with WVURC to ensure that financial management policies and procedures pertaining to the management of the grant under review include appropriate internal control mechanisms.
9. Remedy \$6,393 in unsupported questioned costs.<sup>9</sup>
10. Remedy \$299,044 in unallowable questioned costs.

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<sup>9</sup> In response to our draft audit report, WVURC supplied adequate documentation to close this recommendation and remedy these questioned costs.

# APPENDIX 1: Objectives, Scope, and Methodology

## Objectives

The objectives of this audit were to determine whether costs claimed under the grant were allowable, supported, and in accordance with applicable laws, regulations, guidelines, and terms and conditions of the grant; and to determine whether the grantee demonstrated adequate progress towards achieving the program goals and objectives. To accomplish these objectives, we assessed performance in the following areas of grant management: program performance, financial management, expenditures, budget management and control, drawdowns, and federal financial reports.

## Scope and Methodology

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

This was an audit of the Office of Justice Programs (OJP), National Institute of Justice (NIJ) grant awarded to the West Virginia University Research Corporation (WVURC) in Morgantown, West Virginia under the fiscal year 2018 Artificial Intelligence Technology Applied Research and Development for Law Enforcement Applications solicitation. WVURC received one award totaling \$985,950. As of June 1, 2022, WVURC had drawn down \$739,994 of the funds awarded. Our audit concentrated on, but was not limited to, the period spanning January 1, 2019, the award date, through June 4, 2022, the last day of our audit fieldwork. As a result of the COVID-19 pandemic response, we performed our audit fieldwork exclusively in a remote manner.

To accomplish our objectives, we tested compliance with what we considered to be the most important conditions of WVURC's activities related to the audited grant. We performed sample-based audit testing for grant expenditures including direct costs, travel costs, payroll and fringe benefit charges, subgrantee costs, indirect costs, federal financial reports, and progress reports. In this effort, we employed a judgmental sampling design to obtain broad exposure to numerous facets of the grant reviewed. This non-statistical sample design did not allow projection of the test results to the universe from which the samples were selected. The DOJ Grants Financial Guide (Financial Guide), Title 2 C.F.R. part 200 (Uniform Guidance), and the award documents contain the primary criteria we applied during the audit. Award 2018-75-CX-0032 has a scheduled project end date of December 31, 2022. Although a new Financial Guide was released during the project period effective March 2022, we did not apply this new version as criteria because our fieldwork largely reviewed WVURC's grant performance before March 2022.

Our audit obtained information from OJP's Grants Management System, JustGrants, and WVURC's accounting system specific to the management of DOJ funds during the audit period. We did not test the reliability of those systems as a whole, therefore any findings identified involving information from those systems were verified with documentation from other sources.

We discussed our audit results with WVURC officials throughout the audit and at a formal exit conference. We also requested a response to our audit report from OJP and WVURC, and their responses are appended to this final audit report.

## **Internal Controls**

In this audit, we performed testing of internal controls significant within the context of our audit objectives. We did not evaluate the internal controls of WVURC to provide assurance on its internal control structure as a whole. WVURC's management is responsible for the establishment and maintenance of internal controls in accordance with the Financial Guide and Uniform Guidance. Because we do not express an opinion on WVURC's internal control structure as a whole, we offer this statement solely for the information and use of WVURC and NIJ for external audits.<sup>10</sup>

The scope of our internal control testing included a review of internal control principles related to WVURC's control environment, control activities, monitoring activities, and information sharing efforts across personnel. Any internal control deficiencies we found are discussed in the Audit Results section of this report. However, because our review was limited to those internal control components and underlying principles that we found significant to the objectives of this audit, it may not have disclosed all internal control deficiencies that may have existed at the time of this audit.

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<sup>10</sup> This restriction is not intended to limit the distribution of this report, which is a matter of public record.

## APPENDIX 2: Schedule of Dollar-Related Findings

Description	Grant No.	Amount	Page
<b>Questioned Costs:</b> <sup>11</sup>			
Unsupported Subgrantee Payroll Costs	2018-75-CX-0032	\$0	11
Unsupported Costs		\$6,393	
<i>Less Remedied Unsupported Costs</i> <sup>12</sup>		-\$6,393	
Unallowable Subgrantee Costs	2018-75-CX-0032	\$299,044	13
Unallowable Costs		\$299,044	
<b>Total Questioned Costs</b>		<b>\$299,044</b>	

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<sup>11</sup> **Questioned Costs** are expenditures that do not comply with legal, regulatory, or contractual requirements; are not supported by adequate documentation at the time of the audit; or are unnecessary or unreasonable. Questioned costs may be remedied by offset, waiver, recovery of funds, the provision of supporting documentation, or contract ratification, where appropriate.

<sup>12</sup> In response to our draft audit report, WVURC supplied sufficient evidence to remedy these questioned costs.

## APPENDIX 3: OIG Analysis of WVURC Financial Management Policies and Procedures

The following presents our analysis of a sample of WVURC’s financial management policies and procedures. We determined whether the policies and procedures reviewed demonstrated evidence of uniform internal control mechanisms, such as when the policy or procedure was: (1) first adopted, (2) previously revised, (3) most recently reviewed, and (4) approved by a supervisory official with a date and signature. While many WVURC policies and procedures reviewed demonstrated evidence of the four internal control mechanisms, the table below lists those that were not uniformly developed.

Policy or Procedure	Adoption Date?	Revision History?	Most Recent Review Date?	Supervisory Approval with Date and Signature?
Facilities and Administrative (F&A) Costs	No	No	No	No
Purchase Card Manual	No	No	Yes	No
Effort Reporting	No	No	No	No
Administrative and Clerical Salaries	Yes	No	No	Yes
Cost Sharing & Matching of Sponsored Projects	Yes	No	No	Yes
Departmental Stewardship for Property	Yes	No	No	Yes
Unrelated Business Income – Research Activities	Yes	No	No	Yes
Processing Letter of Credit (LOC) Invoices	No	No	No	No
LOC Drawdown Procedures	No	No	No	No
Federal Financial Reports	No	No	No	No
Subrecipient Award Management Policy	Yes	No	No	No
Funds Handling Policy	No	No	No	No
Cash and Cash Equivalents	Yes	Yes	Yes	No
Month End Close – Cash Management	No	Yes	No	No
Monthly Bank Reconciliation Process – Outside Bank Accounts Recorded in MAP	No	Yes	No	No

Source: WVURC

## APPENDIX 4: Grant 2018-75-CX-0032 Publications with Co-Authors Affiliated with Organizations Listed on U.S. Government Entity List

As described earlier in the Program Performance and Accomplishments section of this report, we identified co-authors of five different grant-related publications that explicitly listed their professional affiliation to a foreign research institution on the U.S. government's Entity List. These five research publications were published after the institutions that these co-authors were affiliated with were added to the Entity List in December 2020.

Publication Title ( <i>Journal</i> )	Date of Publication	Number of Co-Authors Affiliated with Organization(s) on U.S. Entity List	Professional Affiliations of Co-Author(s) Listed on Publication that are on the U.S. Entity List	Date Added to U.S. Entity List
A Framework for Enhancing Deep Neural Networks against Adversarial Malware ( <i>Institute of Electrical and Electronics Engineers (IEEE) Transactions on Network Science and Engineering</i> )	January 2021	2	Nanjing University of Science and Technology (NUST)	December 2020
Heterogeneous Graph Structure Learning for Graph Neural Networks ( <i>35th Association for the Advancement of Artificial Intelligence Conference on Artificial Intelligence</i> )	May 2021	2	Beijing University of Posts and Telecommunications (BUPT)	December 2020
Hyperbolic Graph Attention Network ( <i>IEEE Transactions on Big Data</i> )	May 2021	4	BUPT	December 2020
Heterogeneous Information Network Embedding with Adversarial Disentangler ( <i>IEEE Transactions on Knowledge and Data Engineering</i> )	July 2021	4	BUPT	December 2020
Arms Race in Adversarial Malware Detection: A Survey ( <i>Association for Computing Machinery Computing Surveys</i> )	November 2021	2	NUST	December 2020

Source: OIG Analysis

# APPENDIX 5: West Virginia University Research Corporation Response to the Draft Audit Report<sup>13</sup>



August 10, 2022

Mr. John Manning  
Regional Audit Manager  
Washington Regional Audit Office  
Office of the Inspector General  
U.S. Department of Justice  
Jefferson Plaza  
Washington, D.C. 20530

Dear Mr. Manning,

We appreciate the opportunity to review and respond to the Department of Justice, Office of the Inspector General's recommendations related to OJP Award Number 2018-75-CX-0032, Using Artificial Intelligence Technologies to Expose Darknet Opioid Traffickers. We have thoroughly reviewed these recommendations and we welcome the guidance and opportunity to strengthen our sponsored program procedures and policies.

Please find below our management response to the recommendations identified in the draft audit report. If you have any questions, please do not hesitate to contact us.

Sincerely,

*Anjali B. Halabe*

Anjali B. Halabe  
Senior Associate Vice President for Finance,  
West Virginia University  
Treasurer,  
WVU Research Corporation

A handwritten signature in blue ink, appearing to read 'K. Stores', written over a horizontal line.

Katie R. Stores  
Assistant Vice President for Strategy and Research,  
West Virginia University  
Secretary,  
WVU Research Corporation

The WVURC is an AA/EEO/Minorities/Females/Vet/Disability/E-verify compliant employer.

[research.wvu.edu](http://research.wvu.edu)

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<sup>13</sup> The West Virginia University Research Corporation's response to the draft audit report contained three attachments, which were not included in the report.

**Audit Recommendations for OJP with WVURC Response:**

- 1. Assess its testing resources to ensure the appropriate evaluation of AlphaDetective source code and data sets after receipt of the prototype deliverable.**

WVURC Response

*In order to assist with the project outcome evaluation, the Research Team working on this award will ensure that the meta data such as the user manual related to the AlphaDetective source code and the associated data sets are provided to the NIJ along with the prototype.*

- 2. Work with WVURC to ensure the effective and appropriate testing, use, and deployment of the AlphaDetective prototype.**

WVURC Response

*As noted by the OIG auditors, the WVURC research team has met or were otherwise on track to meet project milestones. WVURC research team will continue the work consistent to NIJ OJP aims to test, use, and deploy the prototype.*

- 3. Work with WVURC to establish protocols to check and verify reported research team progress and accomplishments.**

WVURC Response

*WVURC acknowledges the DOJ OIG audit finding is consistent with its practices. Research investigators funded under WVURC's sponsored awards are designated as and are inherently the best-qualified to communicate the programmatic progress and milestones, and thus are the appropriate personnel responsible for the planning, conduct, and reporting of research. Although the OIG auditors cited an example of achievements which were not able to be verified, the audit nonetheless concluded WVURC research team has met or were otherwise on track to meet project milestones. Accordingly, WVURC research team aims to complete its remaining work and milestones consistent with the upcoming expiration of the award.*

*Institutionally, WVU and WVURC are also amidst a Research Portal Initiative project, which will include selection and implementation of a modernized research management platform. It is expected that the research management platform will contain functionality which will enable better oversight and monitoring of award programmatic progress as appropriate.*

- 4. Work with WVURC to implement procedures that: (1) require WVURC submit future award-related publications to NIJ prior to or simultaneous to their publication, and (2) future award-supported publications contain the required statements in the appropriate location of the document.**

WVURC Response

*WVURC acknowledges the OIG audit recommendation and the principal investigators (for both WVURC as awardee and current subrecipient) have been counseled on their responsibilities for timing of submission and required prescribed disclosure statements of award-related publications.*

*Institutionally, WVU and WVURC are also amidst a Research Portal Initiative project, which will include selection and implementation of a modernized research management platform. It is expected that the research management platform will contain functionality which will enable better system prompting and tracking of award-specific terms and conditions.*

- 5. Ensure that WVURC: (1) has its POC complete required financial and grant administration training and (2) provide signed and dated REII attestations that cover the scope of award-funded activity.**

WVURC Response

*WVURC agrees with the OIG audit recommendation, noting that the observed training lapses were attributable to personnel turnover. WVURC will develop an internal mechanism to ensure that award POC's and FPOC's are up-to-date with OJP financial management and grants administration training. Additionally, WVURC is happy to accommodate and comply with any changes made by NIJ regarding REII attestations under the award.*

- 6. Work with WVURC to strengthen its conflict-of-interest disclosure policies.**

WVURC Response

*WVURC acknowledges the OIG audit recommendations and agrees to add specific language to the COI form describing the required disclosure of foreign collaboration and support, clarifying that the current exemptions as defined by 20 U.S.C. 1001(a) do not apply.*

*Institutionally, WVU and WVURC are also amidst a Research Portal Initiative project, which will include selection and implementation of a modernized research management platform. It is expected that the research management platform will contain functionality which will provide clarification for users and additional administrative congruency measures to ensure that those who meet the definition of "Investigator" are identified for the purposes of the COI disclosure requirement.*

- 7. Clarify the scope and nature of foreign activities and individuals that merit research grant recipient disclosure.**

WVURC Response

*The nature of finding is directed to OJP. Consistent with the present landscape for federal guidance impacting research security, WVURC is aware of and evaluating the impact and compliance burdens associated with impending requirements in accordance with National*

Security Presidential Memorandum 33, related research security legislation and associated government and research community guidance.

**8. Work with WVURC to ensure that financial management policies and procedures pertaining to the management of the grant under review include appropriate internal control mechanisms.**

WVURC Response

WVURC agrees with the OIG audit recommendation to ensure that policies and procedures more consistently track and display the evidence of internal control mechanisms to show when the policy/procedure was 1) first adopted, 2) previously revised, 3) most recently reviewed, and 4) approved by a supervisory official with a date and signature. As noted in the draft audit report, the policies and procedures related to the financial management of sponsored awards were deemed to be adequate in terms of substance and there were many policies that demonstrated evidence of tracking the adoption date, revision history, most recent review date and supervisory approval. However, there were procedures and policies identified in Appendix 3 of the audit report that lacked these key tracking indicators and formal approval processes and WVURC agrees to establish a process to ensure these internal control mechanisms are tracked and implemented.

**9. Remedy \$6,393 in unsupported questioned costs.**

WVURC Response

Please see the attached document called "[REDACTED] Certification" that shows the emailed approval from the [REDACTED] PI, [REDACTED] that confirms the effort report for [REDACTED]. This email pdf is linked in the [REDACTED] screenshot of the approval of this effort report as can be seen in the attached file called "[REDACTED] Screenshot of System". Per a previous email conversation with the DOJ OIG on August 1, 2022, this email approval is sufficient to show the appropriate approval of this effort report.

**10. Remedy \$299,044 in unallowable questioned costs.**

WVURC Response

Please see the attached document titled, "Grant Manager Correspondence" that shows the communication we recently had with our Grant Manager for this award, Natasha Parrish. Ms. Parrish let us know that we should have been advised during the initial change in scope request that we would also need to submit a separate budget modification. We have reproduced the budget that was submitted as part of the scope change request and sent this documentation to Ms. Parrish so that she can retroactively approve the budget modification.

# APPENDIX 6: Office of Justice Programs Response to the Draft Audit Report



U.S. Department of Justice

Office of Justice Programs

Office of Audit, Assessment, and Management

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Washington, D.C. 20531

August 24, 2024

MEMORANDUM TO: John J. Manning  
Regional Audit Manager  
Washington Regional Audit Office  
Office of the Inspector General

FROM: Ralph E. Martin *Ralph E. Martin*  
Director

SUBJECT: Response to the Draft Audit Report, *Audit of the Office of Justice Programs, National Institute of Justice Using Artificial Intelligence Technologies to Expose Darknet Opioid Traffickers Grant, Awarded to the West Virginia University Research Corporation, Morgantown, West Virginia*

This memorandum is in reference to your correspondence, dated July 21, 2022, transmitting the above-referenced draft audit report for the West Virginia University Research Corporation (WVURC). We consider the subject report resolved and request written acceptance of this action from your office.

The draft report contains **10** recommendations and **\$299,044<sup>1</sup>** in net questioned costs. The following is the Office of Justice Programs' (OJP) analysis of the draft audit report recommendations. For ease of review, the recommendations are restated in bold and are followed by our response.

- 1. We recommend that OJP assess its testing resources to plan for the appropriate evaluation of AlphaDetective source code and data sets after receipt of the prototype deliverable.**

OJP agrees with this recommendation. In its response, dated August 10, 2022, WVURC stated that its research team is working to ensure that the meta data, such as the user manual related to the AlphaDetective source code and the associated data sets, are provided to OJP's National Institute of Justice (NIJ), along with the prototype.

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<sup>1</sup> Some costs were questioned for more than one reason. Net questioned costs exclude the duplicate amounts.

Accordingly, we will coordinate with WVURC to ensure that the testing resources are available to validate the research results, and evaluate whether the prototype deliverable should be subject to further testing, dependent on the maturity and functionality of the prototype.

**2. We recommend that OJP work with WVURC to ensure the effective testing of the AlphaDetective prototype and help guide its appropriate use.**

OJP agrees with this recommendation. In its response, dated August 10, 2022, WVURC stated that it is on track to meet project milestones, and will continue the work with NIJ to test, use, and deploy the prototype.

Accordingly, we will coordinate with WVURC to guide the effective and appropriate testing, use, and handling of the AlphaDetective prototype, dependent on the maturity and functionality of the prototype. NIJ will work in coordination with OJP's Office of the General Counsel (OGC) to determine appropriate restrictions commensurate with the maturity and functionality of the prototype, considering among other factors and as applicable, Federal statute, direction, policy, and guidance relevant to fundamental research.

**3. We recommend that OJP work with WVURC to establish protocols to check and verify reported research team progress and accomplishments.**

OJP agrees with this recommendation. In its response, dated August 10, 2022, WVURC stated that, although the OIG cited an example of achievements which were not able to be verified, the audit nonetheless concluded that the WVURC research team had met, or were otherwise on track to meet, project milestones. WVURC further stated that its research team aims to complete its remaining work and milestones consistent with the upcoming expiration of the award.

Accordingly, we will coordinate with WVURC to obtain a copy of written policies and procedures to ensure that adequate protocols are in place to check and verify reported research team program and accomplishments, and the supporting documentation is maintained for future auditing purposes.

**4. We recommend that OJP work with WVURC to implement procedures that: (1) require WVURC submit future award-related publications to NIJ prior to or simultaneous to their publication, and (2) future award-supported publications contain the required statements in the appropriate location of the document.**

OJP agrees with this recommendation. In its response, dated August 10, 2022, WVURC stated that they are in the midst of a Research Portal Initiative project, which will include selection and implementation of a modernized research management platform, and is expected to contain functionality which will enable better system prompting and tracking of award-specific terms and conditions.

Accordingly, we will coordinate with WVURC to obtain a copy of written policies and procedures, developed and implemented, to ensure that future award-related publications are submitted to NIJ, prior to or simultaneous to their publication; and contain the required statements in the appropriate location of the document.

- 5. We recommend that OJP ensure that WVURC: (1) has its POC complete required financial and grant administration training and (2) provide signed and dated REII attestations that cover the scope of award-funded activity.**

OJP agrees with this recommendation. In its response, dated August 10, 2022, WVURC stated that it will develop an internal mechanism to ensure that award Points of Contact (POCs) and Financial Points of Contact (FPOCs) are up-to-date with OJP's requirement for completion of the Department of Justice (DOJ)-sponsored financial management and grants administration training. In addition, WVURC stated that it will accommodate and comply with any changes requested by NIJ regarding the Research and Evaluation Independence and Integrity (REII) attestation.

Accordingly, we will work with WVURC to obtain evidence that: its POCs and FPOCs have completed the required DOJ-sponsored financial management and grants administration training; and the updated REII attestations comply with NIJ's guidance, as applicable, and contain the required date and signature.

- 6. We recommend that OJP work with WVURC to strengthen its conflict-of-interest disclosure policies.**

OJP agrees with this recommendation. In its response, dated August 10, 2022, WVURC stated that it will add specific language to the conflict-of-interest form describing the required disclosure of foreign collaboration and support, and clarifying that the current exemptions, as defined by 20 U.S.C. 1001(a), do not apply. In addition, WVURC stated that the Research Portal Initiative project, which is underway, will provide clarification for users, and additional administrative congruency measures, to ensure that those who meet the definition of "Investigator" are identified, for the purposes of the conflict-of-interest disclosure requirement.

Accordingly, we will coordinate with WRURC to obtain a copy of written policies and procedures, developed and implemented, to strengthen its conflict-of-interest disclosure requirements for its researchers.

- 7. We recommend that OJP clarify the scope and nature of foreign activities and individuals that merit research grant recipient disclosure.**

OJP agrees with this recommendation. In consultation with OGC, NIJ will determine the scope and nature of foreign activities and individuals that merit research grant recipient disclosure, based on Federal statute, direction, policy, and guidance, relevant to fundamental research. Based on that determination, NIJ will consider the need to develop additional guidance that grant recipients should follow to clarify actions they can take to address potential foreign conflicts-of-interest, consistent with existing Federal policy.

- 8. We recommend that OJP Work with WVURC to ensure that financial management policies and procedures pertaining to the management of the grant under review include appropriate internal control mechanisms.**

OJP agrees with this recommendation. In its response, dated August 10, 2022, WVURC stated that it will establish a process to ensure appropriate internal control mechanisms are tracked and implemented.

Accordingly, we will coordinate with WRURC to obtain a copy of written policies and procedures, developed and implemented, to ensure that appropriate internal control mechanisms are included in the financial management practices pertaining to the grant under review.

- 9. We recommend that OJP remedy \$6,393 in unsupported questioned costs.**

OJP agrees with this recommendation. In its response, dated August 10, 2022, WVURC provided documentation to support the \$6,393 in questioned costs, related to unsupported payroll costs charged to Grant Number 2018-75-CX-0032 (see Attachment). We reviewed the documentation, and believe it adequately remedies the \$6,393 in questioned costs. Accordingly, the Office of Justice Programs requests closure of this recommendation.

- 10. We recommend that OJP remedy \$299,044 in unallowable questioned costs.**

OJP agrees with this recommendation. In its response, dated August 10, 2022, WVURC stated that it is working with NIJ to remedy the \$299,044 in unallowable questioned costs, related to subawards for two subject matter experts deemed critical to the project.

Accordingly, we will review the \$299,044 in questioned costs, related to unallowable questioned costs charged to Grant Number 2018-75-CX-0032, and will work with WVURC to remedy, as appropriate.

We appreciate the opportunity to review and comment on the draft audit report. If you have any questions or require additional information, please contact Jeffery A. Haley, Deputy Director, Audit and Review Division, on (202) 616-2936.

Attachment

cc: Maureen A. Henneberg  
Deputy Assistant Attorney General

LeToya A. Johnson  
Senior Advisor  
Office of the Assistant Attorney General

cc: Jeffery A. Haley  
Deputy Director, Audit and Review Division  
Office of Audit, Assessment, and Management

Nancy La Vigne  
Director  
National Institute of Justice

Jennifer Scherer  
Deputy Director  
National Institute of Justice

George Tillery  
Supervisory Operations Research Analyst/Office Director  
Office of Research, Evaluation, and Technology  
National Institute of Justice

Faith Baker  
Office Director, Office of Grants Management  
National Institute of Justice

Charlene Hunter  
Program Analyst  
National Institute of Justice

Mark Greene  
Physical Scientist  
National Institute of Justice

Natasha Parrish  
Grants Management Specialist  
National Institute of Justice

Charlotte Grzebien  
Deputy General Counsel

Phillip K. Merkle  
Acting Director  
Office of Communications

Rachel Johnson  
Chief Financial Officer

Christal McNeil-Wright  
Associate Chief Financial Officer  
Grants Financial Management Division  
Office of the Chief Financial Officer

cc: Joanne M. Suttington  
Associate Chief Financial Officer  
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## **APPENDIX 7: Office of the Inspector General Analysis and Summary of Actions Necessary to Close the Audit Report**

The OIG provided a draft of this audit report to OJP and the WVURC. OJP's response is incorporated in Appendix 6 and the WVURC's response is incorporated in Appendix 5 of this final report. In response to our draft audit report, OJP agreed with our recommendations, and as a result, the status of the audit report is resolved. WVURC agreed with 2 recommendations; and while it did not state specifically whether it agreed with 8 recommendations, WVURC identified ongoing and planned actions that address our recommendations. The following provides the OIG analysis of the response and summary of actions necessary to close the report.

### **Recommendations for OJP:**

- 1. Assess its testing resources to plan for the appropriate evaluation of AlphaDetective source code and data sets after receipt of the prototype deliverable.**

Resolved. The OJP agreed with our recommendation. OJP stated in its response that it will coordinate with WVURC to ensure that the testing resources are available to validate the research results and evaluate whether the prototype deliverable should be subject to further testing, dependent on the maturity and functionality of the prototype.

The WVURC stated in its response that in order to assist with the project outcome evaluation, the research team working on the award will ensure that the meta data such as the user manual related to the AlphaDetective source code and the associated data sets are provided to the NIJ along with the prototype.

This recommendation can be closed when OJP provides evidence it assessed its testing resources to plan for the appropriate evaluation of AlphaDetective source code and data sets after receipt of the prototype deliverable.

- 2. Work with WVURC to ensure the effective testing of the AlphaDetective prototype and help guide its appropriate use.**

Resolved. The OJP agreed with our recommendation. OJP stated in its response that it will coordinate with WVURC to guide the effective and appropriate testing, use, and handling of the AlphaDetective prototype, dependent on the maturity and functionality of the prototype. OJP further stated that NIJ will work with OJP's Office of the General Counsel to determine appropriate restrictions commensurate with the maturity and functionality of the prototype, considering among other factors and as applicable, federal statute, direction, policy, and guidance relevant to fundamental research.

The WVURC stated in its response that the research team has met or were otherwise on track to meet project milestones. WVURC also stated the research team will continue the work consistent to NIJ aims to test, use, and deploy the prototype.

This recommendation can be closed when OJP provides evidence it ensured the effective testing of the AlphaDetective prototype, and that it has guided WVURC on the appropriate use of the prototype.

**3. Work with WVURC to establish protocols to check and verify reported research team progress and accomplishments.**

Resolved. The OJP agreed with our recommendation. OJP stated in its response that it will coordinate with WVURC to obtain a copy of written policies and procedures to ensure that adequate protocols are in place to check and verify reported research team progress and accomplishments, and that the supporting documentation is maintained for future auditing purposes.

The WVURC stated in its response that it acknowledges the DOJ OIG audit finding is consistent with its practices. WVURC stated research investigators funded under its sponsored awards are designated as and are inherently the best-qualified to communicate the programmatic progress and milestones, and thus are the appropriate personnel responsible for the planning, conduct, and reporting of research. WVURC further stated that accordingly, the research team aims to complete its remaining work and milestones consistent with the upcoming expiration of the award.

This recommendation can be closed when OJP provides evidence it obtained written WVURC policies and procedures that state adequate protocols for checking and verifying reported research team progress and accomplishments.

**4. Work with WVURC to implement procedures that: (1) require WVURC submit future award-related publications to NIJ prior to or simultaneous to their publication, and (2) future award-supported publications contain the required statements in the appropriate location of the document.**

Resolved. The OJP agreed with our recommendation. OJP stated in its response that it will coordinate with WVURC to obtain a copy of written policies and procedures, developed and implemented, to ensure that future award-related publications are submitted to NIJ prior to or simultaneous to their publication, and that there are required statements in the appropriate location of the document.

The WVURC stated in its response that it acknowledges the OIG audit recommendation and that the principal investigators have been counseled on their responsibilities for timing of submission and required prescribed disclosure statements of award-related publications.

This recommendation can be closed when OJP provides evidence it obtained written WVURC policies and procedures that require: (1) WVURC to submit award-related publications to NIJ prior to or simultaneous to their publication; and (2) WVURC to include required statements in the appropriate location of the document.

**5. Ensure that WVURC: (1) has its POC complete required financial and grant administration training and (2) provide signed and dated REII attestations that cover the scope of award-funded activity.**

Resolved. The OJP agreed with our recommendation. OJP stated in its response that it will work with WVURC to obtain evidence that: (1) WVURC's POCs and FPOCs have completed the required DOJ-sponsored financial management and grants administration training; and (2) the updated REII attestations comply with NIJ's guidance, as applicable, and contain the required date and signature.

The WVURC agreed with our recommendation and stated in its response that the observed training lapses were attributable to personnel turnover. WVURC stated it will develop an internal mechanism to ensure that award POCs and FPOCs are up to date with OJP financial management and grants administration training. WVURC additionally stated it is happy to accommodate and comply with any changes made by NIJ regarding REII attestations under the award.

This recommendation can be closed when OJP provides evidence that: (1) WVURC's POCs and FPOCs have completed the required DOJ-sponsored financial management and grants administration training, and (2) the updated REII attestations that cover the scope of award-funded activity are signed and dated.

#### **6. Work with WVURC to strengthen its conflict-of-interest disclosure policies.**

Resolved. The OJP agreed with our recommendation. OJP stated in its response that it will coordinate with WVURC to obtain a copy of written policies and procedures, developed and implemented, to strengthen its conflict-of-interest disclosure requirements for its researchers.

The WVURC stated in its response that it acknowledges the OIG audit recommendations and agrees to add specific language to the COI form describing the required disclosure of foreign collaboration and support, clarifying that the current exemptions as defined by 20 U.S.C. § 1001(a) do not apply.

This recommendation can be closed when OJP provides evidence it obtained written WVURC policies and procedures, developed and implemented, that strengthen WVURC's conflict-of-interest disclosure requirements for its researchers.

#### **7. Clarify the scope and nature of foreign activities and individuals that merit research grant recipient disclosure.**

Resolved. The OJP agreed with our recommendation. OJP stated in its response that in consultation with the OJP Office of General Counsel, NIJ will determine the scope and nature of foreign activities and individuals that merit research grant recipient disclosure, based on federal statute, direction, policy, and guidance relevant to fundamental research. OJP further stated that based on that determination, NIJ will consider the need to develop additional guidance that grant recipients should follow to clarify actions they can take to address potential foreign conflicts-of-interest, consistent with existing federal policy.

The WVURC stated in its response that the nature of the finding is directed to OJP and noted that it is aware of and evaluating the impact and compliance burdens associated with impending

requirements in accordance with National Security Presidential Memorandum 33, related research security legislation, and associated government and research community guidance.

This recommendation can be closed when OJP provides evidence that NIJ developed guidance that clarifies the scope and nature of foreign activities and individuals that merit research grant recipient disclosure.

**8. Work with WVURC to ensure that financial management policies and procedures pertaining to the management of the grant under review include appropriate internal control mechanisms.**

Resolved. The OJP agreed with our recommendation. OJP stated in its response that it will coordinate with WVURC to obtain a copy of written policies and procedures, developed and implemented, to ensure that appropriate internal control mechanisms are included in the financial management practices pertaining to the grant under review.

The WVURC agreed with our recommendation and stated in its response that it agrees to establish a process to ensure the appropriate internal control mechanisms are tracked and implemented.

This recommendation can be closed when OJP provides evidence that WVURC has updated its financial management policies and procedures pertaining to the management of the grant under review to include appropriate internal control mechanisms.

**9. Remedy \$6,393 in unsupported questioned costs.**

Closed. The OJP agreed with the recommendation. OJP stated in its response that WVURC provided documentation to support the \$6,393 in questioned costs, related to unsupported payroll costs charged to Grant Number 2018-75-CX-0032. OJP stated it reviewed the documentation, and believes it adequately remedies the \$6,393 in questioned costs and accordingly, it requests closure of the recommendation.

The WVURC provided email documentation that showed Principal Investigator approval of the effort report in question that supports the \$6,393 in questioned costs.

The OIG reviewed the documentation and determined that it adequately addressed the recommendation. This recommendation is closed.

**10. Remedy \$299,044 in unallowable questioned costs.**

Resolved. The OJP agreed with the recommendation. OJP stated in its response that it will review the \$299,044 in unallowable questioned costs charged to Grant Number 2018-75-CX-0032, and will work with WVURC to remedy, as appropriate.

The WVURC provided email documentation that showed post-audit discussions with the relevant OJP Grant Manager about how to remedy the questioned costs. WVURC stated that it submitted to the OJP Grant Manager the necessary documentation to remedy the questioned costs.

This recommendation can be closed when OJP provides evidence that it remedied the \$299,044 in unallowable questioned costs.