



Analysis of the Coverdell Grant Program Administered by the Indiana Criminal Justice Institute, 2005 and 2006 Grant Awards

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On January 26, 2006, the Indiana Criminal Justice Institute (ICJI) contracted with the IUPUI Center for Urban Policy and the Environment (Center) to perform descriptive assessments and evaluations of 12 federal grant programs administered by ICJI. ICJI asked the Center to examine subgrantee files maintained at its offices and assess the process of subgrantee grant applications and the extent to which reported performance of services is consistent with subgrantee proposals. The primary sources of data for these assessments are the subgrantee applications and their fiscal and performance reports, all of which are maintained as internal administrative records by ICJI. The major purpose of each assessment is to determine whether subgrantees are producing the services proposed in grant applications, as well as to compile any performance information contained within ICJI's internal subgrantee files.

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EXECUTIVE SUMMARY

Public Law (PL) 106-561 and the Paul Coverdell National Forensic Sciences Improvement Act of 2000 created the Coverdell Forensic Science Improvement Grant Program (Coverdell grant program) to assist state and local governments in improving their forensic and medical examiner services. One of many grant programs supporting state and local forensic programs and activities,¹ the Coverdell grant program, and more specifically the agencies supported by it, is assessed by the National Forensic Science Technology Center (NFSTC) on behalf of the National Institute of Justice (NIJ). This report examines the history of Coverdell grants awarded to the Indiana Criminal Justice Institute (ICJI) and the subsequent award of these funds by ICJI to the Indiana State Police (ISP) and Marion County Forensics Services Agency (MCFSA)—the only two Indiana agencies receiving Coverdell awards. ISP and MCFSA program descriptions, problem statements, goals, objectives, activities, performance metrics, and fiscal characteristics are examined for grants received during the October 2005 to September 2006 and October 2006 to September 2007 operating periods.

Coverdell Grant Award History

From 2002 to 2006, ICJI received five Coverdell awards from the NIJ totaling \$672,097. Awards increased steadily each year, and by 2006 the award amount was three times that of 2002. Most likely because of the very specific purpose of the Coverdell grant program, ICJI has expended yearly Coverdell awards almost entirely with an overall five year burn rate of 99.6 percent. The only award in which the full amount was not expended was the FFY 2005 award where approximately one percent or \$2,000 was returned to NIJ

unspent. Thus, it appears that these awards are being utilized efficiently by ICJI and subgrant recipients.

ISP and MCFSA programs, 2005 and 2006

For the October 2005 to September 2006 operating period, the ISP and MCFSA received Coverdell grants to support their *Firearms Backlog Reduction Programs*—programs intended to address the problem of mounting firearms examination case backlogs. The ISP received \$129,720 for this effort and MCFSA \$64,859.² Both agencies used these funds to purchase equipment (primarily, microscope systems for bullet and cartridge case comparisons). From beginning to end of the grant period, the turnaround time in processing sample results decreased 38 percent (average of 238 days per case to 147) for the ISP, but increased 57 percent (average of 219 days to eliminate entire backlog to 344) for the MCFSA. In addition, from beginning to end of the grant period, the number of backlogged cases actually rose for both agencies: 28 percent (218 cases to 278) for the ISP and 12 percent (308 cases to 344) for the MCFSA. Notably, both agencies acknowledged that a decrease in their respective backlogs was not expected for 12 to 18 months following implementation of the backlog reduction programs. And, while increased backlogs were not clearly addressed or forecasted by the agencies in their applications, attention was given to these increases in the agencies respective progress reports.

The ISP used its most recent Coverdell grant (\$128,348) to fund the *Lab Computerization and Accreditation Program* and the MCFSA used its grant (\$85,566) to fund the *Equipment Upgrade/Laboratory Information Management System Maintenance Agreement/Site*

¹A variety of forensic related grants with similar purposes including, the DNA Capacity Enhancement Program Formula Grant, Forensic Casework DNA Backlog Reduction Program Formula Grant, and Solving Cold Cases with DNA grant, have supported Indiana agencies engaged in forensic activities. In FFY 2005, the ISP and city of Muncie received a combined \$1.88 million from these grant programs and in FFY 2006 the ISP and MCFSA received a combined \$1.13 million from two of these grant programs.

²The ISP Forensic and Health Sciences Laboratories received a state appropriation of \$4.28 million for each of the Fiscal years 2006 and 2007 (see Indiana 2005-2007 as passed budget). MCFSA received \$3.62 million from the Marion County General Fund in 2005 and \$4.23 million in 2006 (see MCFSA 2005 annual report). In addition, MCFSA received a direct Coverdell award in the amount of \$36,410 from NIJ in FFY 2005.



Assessment Project. Both programs are operating during the October 2006 to September 2007 period and are intended to address potential inefficiencies that could develop as a result of technological and equipment deficiencies. The ISP will use its grant to purchase new software to computerize shoe print and tire mark analyses. In addition, funds will be used to purchase computers, printers, and barcode label printers to help staff carry out basic functions and take full advantage of a new laboratory information management system (LIMS), JusticeTrax, and for various maintenance and other fees associated with lab inspections that will be conducted by the American Society of Crime Laboratory Directors (ASCLD). MCFSA will use its funds to purchase equipment—a gas chromatograph/mass spectrometer (GC/MS)—a maintenance agreement for the LIMS, a feature upgrade to the LIMS, and a lab assessment in preparation for the conversion to ASCLD-LAB/ISO accreditation.

Recommendations

The two current grants to the ISP and MCFSA support solid programs consistent with the Coverdell grant program purpose of improving forensic science and medical examiner services. However, various improvements could be made to documentation of these programs. These are summarized below.

1. Enhanced data driven problem statements

The ISP and MCFSA rely on data for understanding the impact and assessing the current state of their forensic programs. The incorporation of these data into their problem statements would be particularly

effective and useful for illustrating the nature and degree of professed problems.

2. Explicit objectives and activities

Both agencies could more clearly state intermediate objectives and activities and how they will support goal achievement. These should be provided in a list format within the program narrative section of the grant application.

3. Proposal of program specific metrics in addition to prescribed metrics

As discussed in item 1, both programs collect and rely on data; this is further evidenced by each agency's annual reports. However, neither agency proposed any metrics specific to their programs for either grant. Examples of metrics were identified in some of the grant profiles that could be included for these programs in the future. Additional metrics could also be developed.³

Related to metrics, ICJI may want to clarify whether metrics being reported are project specific or general. Both should be reported.⁴

4. Full submission of required reports

Neither agency submitted a final report summarizing and assessing their programs and specific improvements to their programs as a result of the grant awards. The MCFSA failed to submit either a fourth quarter or final financial report documenting final expenditures. These reports are not only required but necessary for assessing program activities and performance. They should be submitted in full.

³A template of relevant 2006 performance measures for ICJI funded programs was produced by the Center (See Performance Metrics for 2006, report 06-C06, March 2006 (Center for Urban Policy and the Environment, SPEA-IUPUI)). Examples of additional Coverdell measures could be reviewed here though subgrantees should be encouraged to develop measures, in addition to the prescribed measures, that are consistent with their programs.

⁴MCFSA indicated that it was reporting metrics specific to firearms only for grant 05-FS-002 and Major Littlejohn (ISP) stated in a phone conversation March 5, 2007, that the metrics reported for grant 05-FS-001 were for firearms only as well.



5. Further explanation of priority given to drug case backlogs

The stated goal of the MCFSA's *Equipment Upgrade/ Laboratory Information Management System Maintenance Agreement/Site Assessment Project* is to reduce the case backlog throughout the laboratory. However, the majority of grant funds will be invested in a piece of equipment used for drug chemistry cases only. Moreover, a review of MCFSA's 2005 annual report showed only 13 (1.3 percent of total) backlogged drug chemistry cases at

the end of 2005. Because drug chemistry cases make up a small share of all backlogged cases, further explanation would be helpful for understanding the priority given to these case types.

6. Leverage competitive Coverdell awards

ICJI did not seek a competitive Coverdell award in addition to its base award in the most recent Federal grant cycle. Vying for these funds should be considered if ICJI has not historically sought these funds.

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COVERDELL PROGRAM DESCRIPTION

Public Law (PL) 106-561 and the Paul Coverdell National Forensic Sciences Improvement Act of 2000 created the Coverdell Forensic Science Improvement Grant Program.⁵ Its purpose is to “provide funding to State and local governments to improve the quality and timeliness of forensic science and medical examiner services and/or to eliminate backlogs in the analysis of forensic evidence.”⁶ Since its authorizing legislation, two PLs amended the original legislation. In 2002, PL 107-273 expanded the availability of Coverdell grant funds to local units of government in addition to states. In 2004, PL 108-405 approved use of funds for reducing backlogs in forensic evidence analysis. The 2004 law also established a new requirement: grant recipients, and those who may receive any portion of a grant, must certify that they have in place a process for conducting external investigations by independent government entities if allegations of misconduct arise.⁷

States (including the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands) and local units of government are eligible for Coverdell grants, but must certify they: (a) have a plan for improving forensic science laboratories, (b) use generally accepted laboratory procedures and practices, and (c) have in place a process for conducting independent external investigations as described above.^{8,9} Coverdell grants are typically awarded for a period of one year. Seventy-five percent of funds appropriated to the Coverdell Grant Program are awarded to states (“base funds”) based on population¹⁰ and 25 percent are awarded to either states or local units of government on a competitive basis (“competitive funds”) based on Part I violent crimes

reported in the Federal Bureau of Investigations (FBI) Uniform Crime Reports (UCR) and other criteria.¹¹ Coverdell grant recipients may use funds for personnel; computerization; laboratory equipment; supplies; accreditation; education, training and certification; facilities;¹² and up to 10 percent of an award for administrative expenses.¹³

Coverdell grants may be used for any combination of three purpose areas.¹⁴ These include:

1. Carrying out all or a substantial part of a program intended to improve the quality and timeliness of forensic science or medical examiner services in the state.
2. Reducing or eliminating backlogs in the analysis of forensic science evidence.
3. Training, assisting, and employing forensic laboratory personnel, as needed, to eliminate such backlogs.

Consistent with these purpose areas, recipients of Coverdell grants must report performance data that measure their results. Performance measures include:¹⁵

1. Percent reduction in the number of days from sample submission to delivery of results.
2. Change in the number of days between submission of a sample to a forensic science laboratory and delivery of test results to a requesting office or agency.
3. The number of backlogged cases analyzed with Coverdell funds.
4. The number of forensic science or medical examiner personnel who completed appropriate training or educational opportunities with Coverdell funds.

⁵National Institute of Justice (NIJ). Coverdell Forensic Science Improvement Grant Program. Retrieved November 2, 2006, from <http://thomas.loc.gov/cgi-bin/bdquery/z?d106:SN03045:ITOM:/bs/s/d106query.html>

⁶Ibid

⁷NIJ, see footnote 5

⁸NIJ. Paul Coverdell Forensic Science Improvement Grants Program, FY 2006 Solicitation. Retrieved November 2, 2006, from <http://www.ncjrs.gov/pdffiles1/nij/s1000745.pdf>

⁹States that intend to use Coverdell funds for facility construction must also certify that they will not use more than the allowable amount of the Coverdell funds for such construction.

¹⁰Each state receives at minimum an award equal to 0.6 percent of the available Coverdell funds.

¹¹NIJ, see footnote 5

¹²Only specific percentages, determined by the amount of an award, may be used for new facilities.

¹³NIJ, see footnote 8

¹⁴NIJ, see footnote 8

¹⁵NIJ, see footnote 8



Additional Information/Circumstances

On November 12, 2004, the National Forensic Science Technology Center (NFSTC) was tasked with assessing various DNA-related grant programs, including the Coverdell grant program, awarded by the NIJ. NFSTC is “a not-for-profit corporation funded by a Cooperative Agreement with NIJ [who] provides programs that build individual competency and quality systems for the forensic science community in the United

specific to the Coverdell grant program are listed and described below:

1. *Grant Progress Assessment checklist* – Excel document (12 worksheets); provided as part of the pre-assessment check list; includes a general information, administrative, and budget worksheet to be completed by all programs applying for assessment as well as an individual worksheet for each type of grant, including the Coverdell Grant.

Table 1: NFSTC External DNA Audits in Indiana

2003	2004	2005	2006
Indianapolis-Marion County Forensic Services Agency	Indiana State Police - Evansville Laboratory Indiana State Police - Fort Wayne Laboratory Indiana State Police - Indianapolis Casework Laboratory Indiana State Police - Indianapolis Database Laboratory Indiana State Police - Lowell Laboratory	Indianapolis-Marion County Forensic Services Agency	Assessments have been conducted but the sites are unknown

Source: National Forensic Science Technology Center (NFSTC)

States.”¹⁶ Consistent with this grant assessment effort, the NFSTC developed the [On-site] Grant Progress Assessment Program (GPA) which was an addition to their extant DNA Audit Program.¹⁷ Although the NFSTC did not begin conducting assessments of Coverdell grant recipients until September 2006,¹⁸ there have been assessments completed for other DNA grant programs.¹⁹ Table 1 shows Indiana sites receiving assessments from 2003-2006.

The NFSTC developed several documents for the GPA program. Those

2. *Pre-Assessment Profile-Coverdell/Cold Case Grant Progress Assessment Application* – application from site to NFSTC for assessment; includes basic program information (agency name, agency location, point of contact).
3. *Grant Progress Assessment Paul Coverdell Forensic Sciences Improvement Program (Guide to Coverdell Grant Form)* – assessment tool used by assessors.

The GPA program evolved from the President’s *Advancing Justice through DNA Technology* initiative. While the GPA and

¹⁶National Forensic Science Technology Center (NFSTC). Retrieved November 7, 2006, from <http://www.nfstc.org/aboutus/index.htm>

¹⁷NFSTC. Retrieved November 7, 2006, from http://www.nfstc.org/programs/assessments/docs/GPA_Hart300_MH.pdf

¹⁸Email exchange between David Sylvester (Deputy Chief Scientist, NFSTC) and Bill Newby (Research Coordinator, Center for Urban Policy and the Environment) on October 31, 2006.

¹⁹NFSTC. Retrieved November 7, 2006, from <http://www.nfstc.org/programs/index.htm>



Advancing Justice through DNA Technology initiative are clear in their focus—DNA—and ostensibly outside the scope of the Coverdell program, the Coverdell program is for all practical purposes inseparable from these efforts. The Coverdell program is explicitly identified by the NFSTC among programs that may receive an assessment as part of the GPA

program. Furthermore, Coverdell purpose areas of “improve[ing] the quality and timeliness of forensic science” and reducing backlogs, likely include backlogs of DNA samples.²⁰ Thus, reviews of the Coverdell grant program should consider these linkages and how they tie into the broader network of forensic program initiatives and funding.

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²⁰The Coverdell grant program does not list DNA among types of forensic evidence that can be analyzed as part of backlog reduction efforts.



ICJI COVERDELL GRANT HISTORY

The Indiana Criminal Justice Institute received five Coverdell awards totaling \$672,097 from 2002 to 2006, with an annual average award of \$120,537. The largest award was \$213,914 in 2006 and the smallest award was \$69,410 in 2002. The award amount increased slightly from 2002 to 2003, almost doubled from 2004 to 2005, then reflected a moderate increase in 2006. In addition to these yearly award amounts, Table 2 shows the amount spent

for each award and the corresponding burn rates (grant expenditure rate). The only year in which the full Coverdell award was not spent was 2005 which saw a balance of \$2,057 returned to the Bureau of Justice Assistance (BJA). These nearly perfect burn rates likely reflect a focused demand for Coverdell awards from the relatively few entities that provide services consistent with the grants' purposes.²¹

Table 2: Indiana federal Coverdell grants by year and burn rates, 2002-2006

Year (FFY)	Grant amount (\$)	Amount spent (\$)	Burn rate (%)
2002	69,410	69,410	100
2003	74,895	74,895	100
2004	111,571	111,571	100
2005	202,307	200,250	98.9
2006	213,914	213,914	100
TOTAL	672,097	670,040	99.6

Source: ICJI D&C Division BJA Grants Histories file and 2004 PC Award Control Document

²¹Only two agencies, the ISP and the MCFSA, have received Coverdell funding from ICJI.



COVERDELL GRANT PROFILES

²²Both agencies submitted the same applications and indicated intentions to collaborate on program activities, namely the purchasing of equipment.

²³MCFSA also received a direct Coverdell award from NIJ in the amount of \$36,410 in FFY 2005. In addition, the ISP received \$1.82 million from other Federal forensic related grants in FFY 2005. In FFY 2006, the ISP received \$911,000 from other Federal forensic related grants and the MCFSA received \$223,000. Because grants may start at different times, it is unclear the degree to which there is overlap among these grants.

²⁴No metrics were reported in the first semi-annual progress report because the equipment purchase had been delayed.

²⁵Major Littlejohn (ISP) explained in a phone conversation March 5, 2007, that turnaround time was high because it included both high and low priority cases which skews the metric; urgent cases are processed first followed by existing backlogged cases. Jeanie Nolte (MCFSA) also explained in a phone conversation February 27, 2007, that case turnaround was calculated as a snapshot for eliminating all backlogged cases (i.e., it would take MCFSA 344 days to eliminate their current backlog on the day the report was submitted)

²⁶MCFSA defines a backlogged case as any case that is pending analysis. Once the case begins to be analyzed, it is no longer considered a backlogged case (phone conversation with Jeanie Nolte, MCFSA Forensic Administrator, on February 27, 2007). The ISP defines a backlogged case as any case that has been submitted but not completed; once the results are provided to the requesting agency, the case is removed from the backlog (phone conversation with Major Littlejohn on March 5, 2007).

Indiana State Police (ISP), Indianapolis-Marion County Forensic Services Agency (MCFSA) Firearms Backlog Reduction Programs

ISP: 05-FS-001 (\$129,720, 10/1/2005 – 9/30/2006)

MCFSA: 05-FS-002 (\$64,859, 10/1/2005 – 9/30/2006)

Program Description

The Indiana State Police (ISP) has received four Coverdell awards to support its labs and forensic science related programs since 2002, and the Marion County Forensics Services Agency (MCFSA) has been supported with Coverdell awards for the past two years. In 2005 (10/1/2005 to 9/30/2006), both agencies requested Coverdell funding to support the same program addressing firearm case backlogs.²² The ISP received \$129,720 for this effort and MCFSA received \$64,859.²³ For the 2005 request, ISP and MCFSA submitted identical grant applications to ICJI. Both agencies used funds to purchase comparison microscope systems for bullet and cartridge case comparisons. The ISP purchased two such systems and the MCFSA one. In addition, the ISP purchased various other pieces of equipment to support its backlog reduction program. The agencies stated that these investments in equipment would be supplemented by state and local investments in manpower and the training of new examiners. According to the agencies, the benefits of these investments and the backlog reduction program are not expected to be realized for 12 to 18 months.

Problem Statement, Goals, Objectives, Program Activities

The problem is described in the program narrative section of the application(s) as a “mounting backlog” of

firearms examination cases. Though no specific case load data are provided, the agencies cite various circumstances that are contributing to the backlog problem. For instance, they state that the requests for firearms examinations have increased while state support for such operations has been “limited.” Furthermore, the agencies identified a large demand for their lab services based on the statewide service area covered by the ISP and the approximately 1.5 million daily population the MCFSA serves. Finally, both equipment (the primary item for which the agencies are requesting funding) and staff are noted as being insufficient for efficiently meeting current and future firearms examination case demands.

A single goal is outlined by the agencies—to reduce the backlog of cases needing firearms examinations. No specific objectives or program activities (other than the purchasing of equipment) are outlined by the agencies.

Measurements and Performance Metrics

No metrics are proposed by the ISP or MCFSA in their applications. However, both agencies reported various prescribed metrics in their second semi-annual progress reports.²⁴ Table 3 presents these metrics. The turnaround time in processing sample results decreased 38 percent (average of 238 days per case to average of 147) from beginning to end of the grant period for the ISP, but increased 57 percent (average of 219 days to eliminate entire backlog to average of 344) for the MCFSA.²⁵ In addition, from beginning to end of the grant period the number of backlogged cases actually rose: 28 percent (218 cases to 278) for the ISP and 12 percent (308 cases to 344) for the MCFSA.²⁶ Notably, this increase in case backlogs runs contrary to the goal of the program put forward by the agencies.



However, the agencies evidently anticipated this outcome, stating that it would be 12 to 18 months before firearms examination backlogs were reduced. Nevertheless, increased backlogs were not clearly addressed or forecasted by the agencies.

Fiscal Performance

The ISP and MCFSA requested and received \$129,720 and \$64,859, respectively, from ICJI in 2005 to carry out the initial stage of the firearms reduction program during the operating period. Three previous grants to the ISP averaged approximately \$77,000 per year, so funding for the 2005-2006 period increased sharply to \$129,720.²⁷ The MCFSA saw an approximately \$9,000 increase for the 2005-2006 period over its previous and first award.²⁸ The 2005 grants accounted for approximately 96 percent of the total Federal Coverdell grant awarded to ICJI.

All expenditures reported by the agencies were for equipment (see Table 4).

In addition to the 2005 base award, the ISP sought a separate Coverdell grant of \$95,000 through a competitive process that was going to fund additional equipment and travel expenses related to training events for examiners. This bid was unsuccessful, however, and it appears that as a result, the ISP used Coverdell funds secured from ICJI to purchase some of this additional equipment. Specifically, approximately \$8,500 of the \$129,720 was used to purchase stereomicroscopes, an electronic loading balance, and digital calipers with certified stainless steel rulers. The MCFSA also spent approximately \$3,400 on a Dell Precision Laptop. Other than these expenditures, the ISP and MCFSA reported actual expenditures that were consistent with proposed and approved expenditures.

Table 3: Prescribed Coverdell metrics reported by the ISP and MCFSA (10/1/2005 to 9/30/2006 operating period)

Performance metric	ISP	MCFSA
At the beginning of the grant period, the number of days between submission of a sample to a forensic science laboratory and delivery of test results to a requesting office or agency.	238/case	219/entire backlog
At the end of this reporting period, the number of days between submission of a sample to a forensic science laboratory and delivery of test results to a requesting office or agency.	147/case	344/entire backlog
At the end of this reporting period, the change in the number of days between submission of a sample to a forensic science laboratory and delivery of test results to a requesting office or agency.	91 decrease	240 increase
Number of backlogged cases at the beginning of the grant period.	218	308
At the end of this reporting period, the number of backlogged cases.	278	344
Number of backlogged forensic cases analyzed with Coverdell funds (if applicable)	0	N/A
Number of medical examiner personnel attending training programs (if applicable)	N/A	N/A
Number of forensic science personnel attending training (if applicable)	3	0

²⁷The level of funding to the ISP for the 2006-2007 period was similar to that of 2005-2006 period at \$128,348.

²⁸MCFSA received \$85,566 in Coverdell support for the 2006-2007 period, a substantial increase from the previous year.



Overall Program Assessment

The ISP and MCFSA backlog reduction programs appear fairly strong. The agencies are attempting to address a mounting backlog of firearms examination cases, which is clearly stated in their applications. Various circumstances such as insufficient equipment and manpower and large service areas (potential demand) are cited as contributing factors to the backlog. Unfortunately, no case load information is provided to support the problem definition, and no specific program objectives or activities are outlined by the agencies, other than the purchasing of equipment. The inclusion of these items would have better illustrated the need for and the expectations of the programs.

Neither the ISP nor the MCFSA proposed particular performance metrics beyond those prescribed by federal Coverdell guidelines. Of those metrics reported in the second semi-annual progress report, the ISP reported a decrease in the amount of time for case processing while the MCFSA reported a large increase. The ISP attributed its decrease to “factors outside the grant” while MCFSA cited increased case submissions as reason for increases in case processing time.²⁹ Similarly, both agencies reported increases in the number of backlogged cases from beginning to end of the grant period. Again these increases are attributed to increased case submissions.³⁰

As proposed, the agencies expended their entire awards on equipment. The only possible discrepancy noted between proposed and actual expenditures was reported by the ISP for the purchasing of various pieces of equipment other than the comparison microscope systems. The ISP also reported an unused award balance of approximately \$2,000.

In terms of reporting, both agencies submitted the majority of required reports. Both agencies provided each semi-annual progress report. The ISP submitted four quarterly financial reports (the fourth report served as the final expenditure report), and the MCFSA submitted three quarterly financial reports. MCFSA failed to submit either a fourth quarter or final financial report documenting final expenditures.³¹ In addition, neither the ISP nor the MCFSA submitted the required “final report” summarizing and assessing their programs and specific improvements to their programs as a result of the grant awards.

Assessment of 2006 Grant

Indiana State Police Lab Computerization and Accreditation Program

06-FS-001 (\$128,348, 10/1/2006 – 9/30/2007)

Program Description

The program involves computerization and accreditation of the lab. New software

²⁹Phone conversations with Major Littlejohn (ISP, March 5, 2007) and Jeanie Nolte (MCFSA, February 27, 2007) and ISP 2nd Semi-Annual Progress Report July 11, 2006, and MCFSA 2nd Semi-Annual Progress Report July 24, 2006.

³⁰Phone conversation with Major Littlejohn (ISP, March 5, 2007) and Jeanie Nolte (Forensic Administrator, MCFSA, February 27, 2007).

³¹An email from Jeanie Nolte, MCFSA Forensic Administrator, to Terrie Grantham, on December 7, 2006, indicated that MCFSA had expended \$64,858.

³²Ibid

Table 4: Budget overview, ISP and MCFSA Firearms Backlog Reduction (10/1/2005 - 9/30/2006 operating period)

Category	ISP (\$)			MCFSA (\$)		
	Proposed	Approved	Actual	Proposed	Approved	Actual
Equipment	129,720	129,720	127,662	64,859	64,859	64,858 ³²



will be purchased to computerize shoe print and tire mark analyses. According to the subgrantee, this software will take advantage of existing databases and has the ability to link to other suspect and crime/scene databases for improved identification of suspects.

Computerization will also be carried out through purchasing new computers, printers, and barcode label printers. Finally, a re-inspection of ISP labs by the American Society of Crime Laboratory Directors (ASCLD) is due in 2007. Various maintenance and other fees will be incurred by this process. The Coverdell grant will help pay for these costs.

Problem Statement, Goals, Objectives, Program Activities

The problem is described in terms of threats to efficiency, specifically in meeting the primary goal of the ISP Laboratory Division to provide quality services, reduce backlogs, and expedite case results. The subgrantee states that the division is responsible for serving the entire state, and must make improvements to its technology and capital resources, as well as complete a regular accreditation process to adequately fulfill this service. According to ISP, significant reductions in time spent on each case can be achieved and valuable databases can be built through investments in new software, SICAR6, which will allow the computerization of shoe print and tire mark analyses. Furthermore, the addition of new computers and printers will help new and future staff to carry out basic functions and to take full advantage of a “new laboratory information management system, JusticeTrax, which relies heavily on barcodes.”³³ The subgrantee asserts that [re]accreditation is necessary for quality control purposes. Other than a narrative explanation, no empirical evidence is provided to support these statements.

The subgrantee lists three main goals of the project. They include:

1. Computerize shoe print and tire mark analyses and form a searchable database of suspects and crime scene impressions.
2. Add network resources so every scientist has a computer and sufficient access to LaserJet printers and barcode printers to minimize competition for resources.
3. Pay for annual accreditation fees charged by ASCLD-LAB.

Beyond these goals, no specific objectives or activities are listed. This is probably because the project involves purchasing equipment (and a lab inspection) rather than providing some sort of service. Nevertheless, the equipment and inspection to be purchased are consistent with the goals and address the potential inefficiency and lab quality problems described by the subgrantee.

Measurements and Performance Metrics

No measurements are proposed. The ISP does discuss the potential reduction in time in shoe print and tire mark analyses and the possibility for identifying serial criminals as a result of the investment in the SICAR6 software, but any specific intent to collect these two potential metrics in the context of program evaluation is not discussed. The progress report metrics include a measure similar to that mentioned above, reduction in case processing time. However, this prescribed metric refers to all cases, whereas the program’s potential measure refers to shoe print and tire mark cases only. ISP should be engaged to ensure that they are reporting the correct metric and not only those affected by this grant/program.

³³ISP grant (06-FS-001) application.



Fiscal Dimensions

The ISP requested and received a Coverdell award in the amount of \$128,348 for the October 2006 to September 2007 operating period, making it the fifth consecutive year the ISP has received Coverdell funding from ICJI. The majority of proposed expenditures (90 percent) were for equipment purchases of a shoe print and tire mark identification system (SICAR6), an image system upgrade, 29 computers, two printers, and 19 barcode printers. The remaining \$12,936 was proposed and awarded for "other" expenditures which consisted of maintenance fees for the labs, pending the American Society of Crime Laboratory Directors (ASCLD) inspection and re-accreditation.

Notably, the equipment expenditures for the image system upgrade were not directly addressed, as the other items were, in the program narrative. It appears that these systems are used for fingerprint analysis and can be linked to the SICAR6 system. The ISP states its intent to increase the storage capacity of its four image systems for linking to the SICAR6 system.

Overall Program Assessment

Based on a review of the application, the ISP lab computerization and accreditation project appears to be a solid effort. However, the nature of the project makes a description of the problem, goals, objectives, and activities somewhat difficult. Nevertheless, the potential problem of lab inefficiencies is given proper attention and three goals are clearly described. In terms of proposed expenditures, the fiscal dimensions of the project are consistent with the goals, although the image system upgrade could be more

adequately described in the program narrative. Improvements to the application could be achieved by providing some data illustrating problems related to inefficiencies that the proposed grant investments will address, and intermediate objectives and activities could be given some attention. Finally, performance metrics specific to improvements expected to be realized from these grant investments could be outlined more precisely. For instance, the SICAR6 software/system is expected to reduce the amount of time required for processing shoe print and tire mark analyses cases. This could translate into a reportable metric separate from the prescribed metrics that could serve as a performance measure for the project and ICJI grant investments.

Assessment of 2006 Grant

Marion County Forensic Services Agency Equipment Upgrade/Laboratory Information Management System Maintenance Agreement/Site Assessment Project

06-FS-002 (\$85,566, 10/1/2006 – 9/30/2007)

Program Description

The program involves the purchase of new equipment, upgrades to the laboratory information management system (LIMS), and preparations for conversion to a new accrediting body and its standards. An additional gas chromatograph/mass spectrometer (GC/MS) instrument will be purchased for the lab, making two of these instruments available to lab personnel. The current LIMS, referred to as BARD (beyond a reasonable doubt), will be upgraded to a new provider, JusticeTrax, and an additional application for this system, Pre-Log, will be purchased.



Table 5: Budget overview, ISP lab computerization and accreditation (10/1/2006 – 9/30/2007 operating period)

Category	Proposed (\$)	Approved (\$)
Equipment	115,412	115,412
Other	12,936	12,936
TOTAL	128,348	128,348

Finally, the lab will finance “an on-site assessment conducted by a qualified quality assessment consultant.”³⁴

Problem Statement, Goals, Objectives, Program Activities

The MCFSA application describes a potential problem involving threats to efficiency and to the lab’s mission due to “a tremendous amount of growth in request for service.”³⁵ This growth has resulted in increasing case backlogs and more time required for the reporting of analytical findings. The subgrantee states that several items must be purchased to ensure operational efficiencies. These include a GC/MS, a maintenance agreement for the LIMS, a feature upgrade to the LIMS, and a lab assessment in preparation for the conversion to ASCLD-LAB/ISO accreditation. The MCFSA application relies primarily on simple declarations and statements that potential problems could develop, and provides data in only one area concerning case processing and equipment.

Related to the new piece of equipment, the subgrantee states that more than 400 drug cases are processed by the lab per month using a single GC/MS. The GC/MS is used to confirm the structural composition of controlled substances. According to MCFSA, this reliance on a single piece of equipment can have negative consequences such as competition for the equipment by the four

full-time and one part-time staff that use it, overuse of the equipment, inability to process cases in optimal time leading to backlogs,³⁶ and lack of a backup if the equipment failed.

In terms of the LIMS maintenance agreement, the subgrantee states that a recent transfer to a new LIMS provider/software, JusticeTrax, will include only one year of support for the system. MCFSA goes on to describe the many improvements that the new system will afford and states the importance of securing a maintenance agreement. Related to this, the subgrantee discusses the addition of a new application, Pre-Log, which will offer additional improvements to the LIMS system. These benefits are expressed as time savings. However, no figures or estimates are provided regarding the expected degree of time savings.

Finally, in preparing for conversion from the ASCLD-LAB accreditation to ASCLD-LAB/ISO, the subgrantee states that an on-site assessment of the lab will allow for identification and examination of potential areas of non-conformance relating to ISO/DAB standards. MCFSA notes there are significant differences between these accrediting bodies, although it does not discuss these differences or specific consequences relating to failure to rectify these differences.

From the description of these items and the issues they address, a single project goal is outlined by the subgrantee: to reduce the backlog throughout the laboratory. Though no objectives are explicitly outlined by the subgrantee, objectives can be derived from MCFSA’s discussion. For instance, the lab will attempt to reduce the amount of time in

³⁴MCFSA grant (06-FS-002) application.

³⁵Ibid

³⁶A review of the MCFSA’s 2005 annual report showed only 13 (1.3 percent of total) backlogged drug chemistry cases at the end of 2005.



processing and reporting case analysis results, and ultimately the backlog, by purchasing an additional GC/MS. Similarly, the lab will attempt to support the efficient functioning of the LIMS, which tracks, analyzes, and manages case information by means of a maintenance agreement. The proper functioning of this system, then, may help accomplish the goal of reducing case backlogs. These implied objectives, while not explicitly stated, are consistent with project goals. The only question arises from efforts to reduce backlogs in general versus backlogs for specific types of cases (e.g., drug cases). The goal of the program is to reduce backlogs in general while the GC/MS instrument to be purchased is a piece of equipment used for drug chemistry cases only (as described by the subgrantee).

Project activities are discussed only in terms of purchasing equipment, contracts, and other items (e.g., a maintenance agreement). If considered activities, it could be argued that each of these purchases inevitably has an impact on the problem of case backlogs and lab efficiency. However, the purchase of a GC/MS appears to have a direct connection with reducing case backlogs—at least for drug chemistry cases—while the other activities address this problem more indirectly. Note, as discussed

above, that this activity will address backlogs of drug chemistry cases only rather than all backlogged cases—which is the stated goal of the project. Furthermore, drug chemistry cases make up only 1.3 percent of backlogged cases. Table 6 shows various types of backlogged cases as reported in the MCFSA 2005 annual report.

Measurements and Performance Metrics

No metrics are proposed by MCFSA despite the project's apparent adaptability to performance measurement. For instance, the subgrantee intends to invest in a piece of equipment that could increase the number of drug chemistry cases analyzed while decreasing drug chemistry case backlogs and processing time—expected outcomes discussed by the subgrantee. These could represent measurable outputs of the project and its investments. In addition, the investment in the “Pre-log” application for the JusticeTrax system is expected to expedite “the evidence submission process” by means of electronic submission of data. The degree to which this process is expedited could be measured and reported as well.

Fiscal Dimensions

The MCFSA requested and received a Coverdell award in the amount of \$85,566 for the October 2006 to September 2007

Table 6: MCFSA 2005 case backlogs by case type

Case type	Number	Percentage (%)
Firearms/toolmarks	344	34.1
Latent prints	271	26.8
Trace chemistry	106	10.4
DNA	95	9.4
Morgue/sexual assault kits	91	9.0
Crime scene	48	4.8
Pre-lim	31	3.0
Drug chemistry	13	1.3
Questioned documents	11	1.1
TOTAL	1,010	100

Source: Indianapolis-Marion County Forensics Services Agency, 2005 annual report



operating period, making it the third consecutive year the agency has received Coverdell funding from ICJI. Table 7 summarizes proposed and approved expenditures. Equipment comprised the largest proposed expenditure category at \$46,423 (54 percent)—with \$41,523 dedicated to the purchase of a GC/MS and \$4,900 to the Pre-log software for the JusticeTrax system. “Other” accounted for the next largest expenditure category with all funds budgeted for a maintenance agreement with JusticeTrax for maintenance of the LIMS for one year. Finally, \$3,000 was proposed and approved for consultants to complete an on-site assessment of the lab in preparation for conversion to the American Society of Crime Laboratory Directors (ASCLD) ISO accreditation. Each of these proposed expenditures is consistent with the project “activities” described by the subgrantee.

Overall Program Assessment

The MCFSA equipment upgrade/LIMS maintenance agreement/site assessment project appears to be sub-optimal. Although the program is adequately described, the goal is clearly stated, and there appears to be consistency between proposed/approved expenditures and project activities, improvements could be made. For example, in light of the goal—to reduce overall case backlogs—and available information on the status of backlogs,

there is some question regarding the priority given to drug chemistry cases in light of the relatively small proportion of backlogged drug chemistry cases compared to overall backlogged cases. Moreover, there is little attention given to non-drug case backlogs that appear to be a more serious problem. A discussion of how non-drug case backlogs are being addressed and why it is necessary to give priority to drug chemistry case backlogs via substantial grant investments would be useful. Beyond general steps to improve MCFSA lab efficiencies, such as the activities described in the current program description, are there specific steps that could be taken to address other types of case backlogs? For instance, is there equipment or other items that could be purchased that would improve the efficiency of firearms/toolmarks case analysis—the source of 34 percent of backlogged cases in 2005? The previous grant to MCFSA began to address these cases. Related to all this, MCFSA should provide specific measurable objectives in its applications.

MCFSA could better illustrate its need for the requested resources by providing data to support that need in the problem description. Any metrics, in addition to the prescribed metrics, that would provide an indication of how progress is being tracked by the lab would also be useful for the subgrantee to include. Examples of metrics specific to this project/grant have been suggested.

Table 7: Budget overview, MCFSA Equipment upgrade/LIMS maintenance agreement/Site assessment project 10/2006 - 9/2007

Category	Proposed funds (\$)	Approved (\$)
Equipment	46,423	46,423
Contracts	3,000	3,000
Other	36,143	36,143
TOTAL	85,566	85,566



CONCLUSION AND RECOMMENDATIONS

The Coverdell Forensic Science Improvement Grant Program is one of many federal grant programs that support State and local forensic programs and activities. Over the five year period from 2002 through 2006, the Coverdell program, via the Indiana Criminal Justice Institute, provided \$672,097 in funding to the Indiana State Police (ISP) and Marion County Forensic Services Agency (MCFSA). The most recent completed grants to the ISP and MCFSA operating during the October 2005 to September 2006 period, supported their *Firearms Backlog Reduction Programs*—programs intended to address the problem of mounting firearms examination case backlogs. These grants represented a \$194,579 investment by ICJI in ISP and MCFSA forensic programs and were used to purchase equipment for analysis of firearms cases. The results of these investments are mixed, due largely to increased case submissions, and backlog reductions have yet to be realized.

The ISP and MCFSA received Coverdell awards for the October 2006 to September 2007 operating period as well with the ISP receiving \$128,348 and MCFSA \$85,566. The ISP is using its funds to purchase new shoe print and tire mark analysis software, equipment, and a re-inspection of its labs by the American Society of Crime Laboratory Directors (ASCLD). MCFSA is using its funds to purchase drug chemistry analysis equipment, a maintenance agreement and additional software application for its laboratory information management system (LIMS), and an on-site assessment for accreditation by the ASCLD-LAB/ISO. With these investments, the ISP intends to forestall inefficiencies that could develop absent these interventions and MCFSA

hopes to address “a tremendous amount of growth in request for service”³⁷ and the resulting increased backlogs and time for reporting analytical findings. The results of these grant investments are expected October 2008.

A review of these grants indicated that the ISP and MCFSA programs supported by Coverdell grants appear to be relatively strong programs with the exception of the 2006 grant to MCFSA. Furthermore, the demand for ISP and MCFSA forensic case analysis services appears to be stable or increasing resulting in a consistent problem of case backlogs and persistent strain on the labs and their resources. Notwithstanding the evidenced strength of these programs and the apparent need for external financial support, improvements could be made to better describe the programs and the problems they intend to address. ICJI could also take steps to enhance the Coverdell grant program. These include:

- 1. Enhanced data driven problem statements**

The ISP and MCFSA rely on data for understanding the impact and assessing the current state of their forensic programs. The incorporation of these data into their problem statements would be particularly effective and useful for illustrating the nature and degree of problems.

- 2. Explicit objectives and activities**

Both agencies could more clearly state intermediate objectives and activities and how they will support goal achievement. These should be provided in a list format within the program narrative section of the grant application.

³⁷MCFSA application, see footnote 34



3. Proposal of program specific metrics in addition to prescribed metrics

As discussed in item 1, both programs collect and rely on data; this is further evidenced by each agency's annual reports. However, neither agency proposed any metrics specific to their programs for either grant. Examples of metrics were identified in some of the grant profiles that could be included for these programs in the future. Additional metrics could also be developed.³⁸

Related to metrics, ICJI may want to clarify whether metrics being reported are project specific or general. Both should be reported.³⁹

4. Full submission of required reports

Neither agency submitted a final report summarizing and assessing their programs and specific improvements to their programs as a result of the grant awards. The MCFSA failed to submit either a fourth quarter or final financial report documenting final expenditures. These reports are not only required but necessary for assessing programs' activities and performance. They should be submitted in full.

5. Further explanation of priority given to drug chemistry case backlogs

The stated goal of the MCFSA's *Equipment Upgrade/ Laboratory Information Management System Maintenance Agreement/Site Assessment Project* is to reduce the case backlog throughout the laboratory. However, the majority of grant funds will be invested in a piece of equipment used for drug chemistry cases only. Moreover, a review of MCFSA's 2005 annual report showed only 13 (1.3 percent of total) backlogged drug chemistry cases at the end of 2005. Because drug chemistry cases make up a small share of total drug cases, further explanation would be helpful for understanding the priority given to these case types.

6. Leverage competitive Coverdell awards

ICJI did not seek a competitive Coverdell award in addition to its base award in the most recent Federal grant cycle. Vying for these funds should be considered if ICJI has not historically sought these funds.

³⁸See performance measures, footnote 3

³⁹See footnote 4