

FY14 JUSTICE ASSISTANCE GRANT (JAG) EQUIPMENT-ONLY PROJECTS Addendum

Submission Instructions: email to cjapplications@nctcog.org by February 28, 2013
To download addendum: http://www.nctcog.org/cs/cj/forms/registration_JAG.asp

Agency Name: [Collin County Medical Examiner's Office](#)
Application title: [Radiological and Photographic Imaging Equipment](#)
Application #: [2680301](#)

1. **LOCAL PRIORITIES (Up to 5 points):** Describe how the project supports drug and human trafficking initiatives; supports a disruption of adult gangs; promotes technology for the electronic discovery for defense counsel; supports regional information-sharing systems for law enforcement; supports the conversion of crime data from UCR to the NIBRS format; enhances patrols along and near the Texas-Mexico border, or promotes cost effective programs that complement the criminal justice system.

If project will fund criminal intelligence sharing databases, describe how your agency will comply with 28 CFR Part 23.

This project promotes cost effective programs that complement the criminal justice system. The Collin County Medical Examiner's Office (CCMEO) is requesting several equipment items which would greatly improve processing and turnaround times for identification of remains, cause of death, and evidence collection/processing during death investigations resulting in improved efficiency and effectiveness for criminal investigators and prosecutors.

2. **NEEDS STATEMENT (up to 30 points):**

- 2a. Describe the need of your agency as it relates to this equipment request.

The CCMEO needs several equipment items to perform essential tasks associated with death investigation including evidence preservation and drying equipment, autopsy lighting, full-face respirators, and radiography and photo-imaging equipment. The current equipment is outdated, insufficient, non-existent, or broken. The CCMEO employs one full- and one part-time pathologist and four investigators, who work overtime to handle large caseloads. The equipment will increase efficiency, improve processing times for investigations and court cases, and allow the CCMEO to handle additional cases.

- 2b. Describe how the absence of this equipment negatively impacts your community.

The current equipment is outdated, insufficient, non-existent, or broken; each of which increases processing time and delays investigations, court cases, and identification of remains or cause of death. These delays limit the number of investigations and bodies which can be examined in a timely manner, increase workloads, and compound the chance for processing errors. The equipment requested will improve death investigation efficiency and effectiveness, permitting pathologists and investigators to reduce turnaround times for each case. The current equipment / processes lead to increased man hours by law enforcement officials, prosecutors, and CCMEO staff on criminal death investigations and produce an evidence processing backlog. These delays may result in cases that are not solved and suspects that avoid prosecution, putting the public safety of Collin County residents at risk.

- 2c. To support the significance of the problem please provide local data relevant to the target area.
NOTE: All data must be cited and verifiable. Only use state and/or national data when comparing/contrasting with local data.

Collin County ranks as one of the top growth areas in the state and the nation with a 65.2% population increase since 2000. Death investigation and related services are provided to a county population of over 800,000, and contract services are provided for neighboring counties (Fannin and Grayson) as well as numerous law enforcement agencies.

This growth in population has resulted in an increased case load for the CCMEO, with a corresponding increase in processing time. From 2009 to 2012, the number of deaths investigated by the CCMEO increased by 34% from 2335 to 3139 investigations, with the total number of bodies examined increasing from 439 to 512 cases (17%). Additionally, annual overtime has more than doubled during that period.

Sources

Collin County. Medical Examiner Office reports. 2009 – 2012.

3. PROJECT DESCRIPTION (up to 50 points):

3a. Describe how this equipment will be used. Include quantity to be purchased.

Digital Radiologic Imaging Equipment, quantity = 1 each

Existing equipment provides analog radiographs (X-rays) of decedents taken in cases involving gunshots, projectiles, or sharp trauma; deaths involving infants and children; traumatic or suspicious deaths; and unidentified remains. When a radiograph is taken, the radiograph machine is warmed up for approx. 1.5 hours before the exposure is made. The film is manually processed by exposing it to several different chemical solutions for controlled periods of time. In 2012, the CCMEO took 250 radiographs and used 60 gallons of fixer and developer chemicals. At times, multiple exposures were made to achieve optimal quality.

Acquisition of a digital Computed Radiography (CR) device and Picture Archival Communications System (PACS) will allow the CCMEO to quickly generate and digitally store and archive radiographs; eliminate the need to meet in person for film viewing and consultation; and expedite positive identification of remains through digital comparison of pre-death X-rays to postmortem radiographs. Additionally, the elimination of radiographic film and chemicals will benefit the environment, reduce exposure to employees, and substantially decrease maintenance time.

Digital radiograph equipment will streamline workflow, improve information sharing and dissemination, accelerate location of projectiles and detection of trauma, and reduce routine maintenance time allowing staff to spend more time on other aspects of death investigation.

Photographic Imaging Equipment, quantity = dSLR camera body and lens x2; external flash x2; wide angle to telephoto zoom lens x2

Photographs are taken by investigators at death scenes and by pathologists during the postmortem examinations. An investigator can be called to a death scene at any hour and in any number of circumstances including motor vehicle fatalities, drug overdoses, industrial accidents, firearm related deaths, structure fires, and any variety of unexplained deaths. It is vital the investigator has high-quality photo imaging equipment to clearly document the scene, allowing the pathologist to understand circumstances that may be difficult to describe in a typed investigation report. Additionally, pathologists take autopsy photographs to demonstrate trauma, natural disease, congenital anomalies, etc. to law enforcement and family members. In 2012, over 11,000 digital images were taken. Any of these photographs can potentially be used as evidence in a court of law.

Forensic Evidence Drying Cabinet, quantity = 1

Currently, CCMEO investigators lay evidence out on butcher paper in a well-ventilated room during business hours to allow for drying at ambient temperature. After hours, the evidence must be moved to smaller, secured areas. The process is repeated the next day and is time consuming, necessitating that law enforcement wait, sometimes for several days, for drying to complete prior to evidence retrieval for further analyses by outside laboratories or agencies. With a drying cabinet, evidence will be hung vertically with hangers and placed on shelves within the cabinet, keeping the evidence secure and handled less, ensuring its integrity, reducing cross-contamination, and drying within a fraction of the time. Law

enforcement and the District Attorney's Office would be more quickly served if this office possessed a drying cabinet.

Autopsy Light and 3-pack Replacement Bulbs, quantity = 1

The CCMEO autopsy suite contains a single surgical light that has been non-functioning for several years. Currently, the pathologists use ambient office lighting to conduct autopsies. As a pathologist can only document what they can clearly see, the acquisition of improved lighting will greatly benefit the pathologists by providing clear, crisp, natural light during autopsies, enhance the pathologists' vision and reduce eye strain and fatigue assisting with accurate diagnosis.

Full-Face Respirators and Cartridge Filters, quantity = 8

CCMEO investigators are on-call 24 hours a day, 365 days per year and are expected to respond to death scenes in a variety of conditions. In 2012, CCMEO investigators responded to 173 death scenes. Investigators are commonly exposed to bloodborne pathogens, pepper spray/tear gas, carbon monoxide, and/ or other irritants and often enter death scenes knowing little about the decedent's medical history. Investigators are expected to take photographs, interview witnesses, collect evidence, and move human remains in a multitude of adverse conditions. Respirators will allow investigators and morgue transport personnel to safely enter a death scene and carry out the investigation more quickly with less irritation and danger to the investigator.

3b. What does the equipment do?

Digital Radiologic Imaging Equipment

Computed Radiography (CR) uses an imaging plate that is run through a special laser scanner to read and digitize x-ray images instead of exposed film developed in darkroom chemical tanks. CR can present an image within seconds of exposure which can be digitally stored and archived using PACS and transmitted instantly for off-site review.

Photographic Imaging Equipment

Equipment purchased will include two dSLR cameras for postmortem examinations, wide angle to telephoto lenses to ensure sharp pictures without changing lenses, and external flashes for low-light situations during scene investigations.

Forensic Evidence Drying Cabinet

Drying cabinets maintain the integrity and credibility of evidence, by protecting bloodstained or wet evidence from pathogens and cross-contamination, preventing loss of trace evidence, eliminating residual staff DNA, and ensuring evidence security. Additionally, they protect personnel from biohazards while providing fast, effective drying for wet evidence.

Autopsy Light

An autopsy light provides a bright working area; advanced maneuverability through rotation around vertical axes; accurate color temperature accenting tissue color; and an even, shadow-free light field during postmortem examinations.

Full-Face Respirators and Cartridge Filters

Full-face respirators equipped with filter cartridges capable of providing 99.97% effective respiratory protection against particulates .3µm such as bloodborne pathogens, organic and chemical vapors, and pepper spray/tear gas.

3c. Who will use it?

Digital Radiologic Imaging Equipment

- Full- and part-time pathologists

Photographic Imaging Equipment

- The pathologists will use the two new dSLR camera bodies and lenses for autopsy photography, replacing the current point & shoot camera.

- The investigators will use the two current dSLR cameras and will supplement with the compatible wide-angle to telephoto lenses (x2) and external flashes (x2) to ensure high-quality scene photography.

Forensic Evidence Drying Cabinet

- All CCMEO staff

Autopsy Light and 3-pack Replacement Bulbs

- Full- and part-time pathologists

Full-Face Respirators and Cartridge Filters

- Investigators and morgue transport personnel

3d. How often do you believe the equipment will be used?

The **Digital Radiologic Imaging Equipment**, **Photographic Imaging Equipment**, and the **Autopsy Light** will be used daily for postmortem examinations. **Full-Face Respirators** will be used weekly to enter death scenes. **The Forensic Evidence Drying Cabinet** will be used approximately biweekly during homicide (15-20/year) investigations.

3e. What training, if any, will be needed to use this equipment?

Use and maintenance instruction will be provided by the equipment vendor for the **Digital Radiologic Imaging Equipment** and **Forensic Evidence Drying Cabinet**. No training is required for the **Photographic Imaging Equipment**, **Autopsy Light**, or **Full-Face Respirators**.

3f. Describe agency's plan to maintain equipment during and after grant period.

Cleaning and maintenance of all equipment purchased will be conducted by CCMEO staff. Departmental funds will be used to purchase replacement parts (e.g., light bulbs, filters, cartridges, etc.) and for any ongoing maintenance costs.

ADDENDUM CANNOT EXCEED 4 PAGES BEFORE YOU INSERT THE BUDGET

4. BUDGET: INSERT EGRANTS BUDGET HERE. Do not provide additional narrative other than what is included in eGrants budget table. Once the budget is complete in eGrants, click on "printer friendly" link at top right. A new window will open with budget information. Select, copy, and paste the entire budget table here. The budget in this addendum must be identical to the one you placed in eGrants.

4a. All budget line items must have sufficient detail to justify the item to be included in the project. Budget line items should be relevant and reasonable to carrying out the project. (Up to 10 points)

4b. The budget must be consistent with proposed activities. (Up to 5 points)

| CATEGORY | SUB CATEGORY | DESCRIPTION | CJD | CASH MAT CH | IN-KIND MAT CH | GPI | TOTAL | UNIT/% |
|-----------|---|--|-------------|-------------|----------------|--------|-------------|--------|
| Equipment | Laboratory Equipment and Accessories | Digital Computed Radiography (CR) device and Picture Archival Communications System (PACS) compatible with existing CCME0 analog radiograph machine and semi-annual maintenance. CR reader should process minimum of 25 plates per hour, 450GB storage, and have a small footprint. Image station should allow image adjustments, annotations, measurements, inputs and outputs, be customizable for basic to advanced users, and have DVD backup tool for disaster recovery. CCME0 pathologists will use the system to digitally generate, store, and archive radiographs to make positive identifications, diagnose trauma and locate projectiles and/or iatrogenic items, and observe congenital anomalies. | \$28,170.00 | \$0.00 | \$0.00 | \$0.00 | \$28,170.00 | 1 |
| Equipment | Laboratory Equipment and Accessories | Mobile forensic evidence drying cabinet, 30" wide x 73" high, heavy duty casters, and filters located at base of cabinet to lower center of gravity for easy mobility through standard doorways. Airflow from top to bottom will bring in clean air from above the unit and exhaust filtered air near bottom of unit. Cabinet will be used by CCME0 investigators to reduce the amount of drying time for evidence in support of local law enforcement and the Collin County District Attorney's Office during homicide investigations. | \$5,000.00 | \$0.00 | \$0.00 | \$0.00 | \$5,000.00 | 1 |
| Equipment | Laboratory Equipment and Accessories | Single ceiling-mounted surgical/autopsy light with 360° rotation around the vertical axis of the arm-and-mounting-system, Y-shaped design to minimize shadows, and equipped with three 35-watt halogen bulbs to produce 90,000 Lux for a diameter of 1 meter. With a color-rendering index (CRI) of 96 and color temperature of 3700 Kelvin, the light will enhance the pathologists' vision and reduce eye strain and fatigue by providing clear, crisp, natural light during daily autopsies. | \$4,775.00 | \$0.00 | \$0.00 | \$0.00 | \$4,775.00 | 1 |
| Equipment | Photographic Equipment and Accessories (Valued \$1,000 or over) | Digital SLR camera bodies with 18-55mm VR lens and basic accessory kit, including camera bag for transport and storage, UV protection filter, lens cleaning kit, LCD screen protector, and 8GB SDHC memory card. Cameras should be compatible with existing CCME0 cameras and include high-resolution 14.2MP DX sensor, 3" LCD, autofocus, built-in pop-up flash, and 420-pixel RGB sensor scene recognition system to automatically optimize exposure, autofocus and white balance, and automatic image sensor cleaning. These cameras and lenses will be used by | \$1,800.00 | \$0.00 | \$0.00 | \$0.00 | \$1,800.00 | 2 |

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| | | the pathologists on a daily basis for autopsy photos. | | | | | | | |
| Equipment | Photographic Equipment and Accessories (Valued \$1,000 or over) | Zoom lens compatible with existing DX-format dSLR CCMEO cameras. Features should include wide angle to telephoto focal range (18-200mm), superior quality ED (extra-low dispersion) elements for sharpness and color correction without distortion at wide apertures, and VR (vibration reduction) image stabilization to enable shooting up to 4 shutter speeds slower (sharper images). Specifications: 76° to 8° angle of view, 20" minimum focus distance, image stabilization, and autofocus. Zoom lenses will be used by CCMEO investigators to clearly document the death scene. | \$1,900.00 | \$0.00 | \$0.00 | \$0.00 | \$1,900.00 | 2 | |
| Supplies and Direct Operating Expenses | Printer, Fax, Scanner and/or Camera (Valued Under \$1,000) | External flash compatible with existing CCMEO cameras. Features should include ability to cover 17 – 200 mm lenses, automatically detect DX/FX camera format and adjust accordingly, and tilt -7° to 90° and horizontally 180° for maneuverability. Specifications: GN 111.5 feet, angle of coverage = 104° to 12°, 2.3 second recycle time. External flash will be used by CCMEO investigators in low-light situations to clearly document the death scene. Quantity = 2. | \$950.00 | \$0.00 | \$0.00 | \$0.00 | \$950.00 | 0 | |
| Supplies and Direct Operating Expenses | Project Supplies (e.g., binocular, battery, flexicuff, drug testing kit) | Disposable plastic covers for CR reader phosphor plates/cassettes, 100/box. Quantity = 4. | \$240.00 | \$0.00 | \$0.00 | \$0.00 | \$240.00 | 0 | |
| Supplies and Direct Operating Expenses | Project Supplies (e.g., binocular, battery, flexicuff, drug testing kit) | Filters for evidence drying cabinet. Carbon filter x1, HEPA filter x1, and pack of 5 intake and 5 main pre-filters. | \$800.00 | \$0.00 | \$0.00 | \$0.00 | \$800.00 | 0 | |
| Supplies and Direct Operating Expenses | Project Supplies (e.g., binocular, battery, flexicuff, drug testing kit) | Replacement bulbs (rated for 1400 hour life) for autopsy light, 3 pack. | \$150.00 | \$0.00 | \$0.00 | \$0.00 | \$150.00 | 0 | |
| Supplies and Direct Operating Expenses | Project Supplies (e.g., binocular, battery, flexicuff, drug testing kit) | Full-face respirator with silicone face seal, scratch-resistant polycarbonate lens for improved visibility and impact protection, DIN port adapter, and center adapter to direct exhaled breath and moisture downward. Respirator should come in multiple sizes for better fit and be NIOSH approved with replacement parts available for maintenance. These masks will be used by CCMEO investigators and morgue | \$1,080.00 | \$0.00 | \$0.00 | \$0.00 | \$1,080.00 | 0 | |

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| | | transport personnel to safely enter death scenes by providing respiratory protection against particulates such as bloodborne pathogens, organic and chemical vapors, and pepper spray/tear gas. Quantity = 8. | | | | | | |
| Supplies and Direct Operating Expenses | Project Supplies (e.g., binocular, battery, flexicuff, drug testing kit) | DIN threaded cartridges with the capability to provide respiratory protection (99.97% effective at .3µm) from bloodborne pathogens, certain organic and chemical vapors, and pepper spray/tear gas will be used in tandem with full-face masks by investigators and morgue transport personnel entering death scenes. Quantity = 8 cases (4 pack/cs). | \$1,720.00 | \$0.00 | \$0.00 | \$0.00 | \$1,720.00 | 0 |