



UNIVERSITY OF KENTUCKY

**Body Bequeathal Program Comprehensive Review
Report Number 2015MC02**

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Abbreviations

Anatomy – Department of Anatomy and Neurobiology

BBP - Body Bequeathal Program

BPM – Business Procedures Manual

COM – College of Medicine

FY – Fiscal Year

Gifts - Operating Gifts

KRS – Kentucky Revised Statutes

OMB - Federal Office of Management and Budget

Service Center - Service Center-Bequeathal Program

Student Fees - Anatomy and Neurobiology Student Fees

UK – University of Kentucky

UKIA – University of Kentucky Internal Audit

UKMC - University of Kentucky Medical Center

Executive Summary

The Body Bequeathal Program (BBP) mission is to supply anatomical materials for all teaching and research program needs at the University of Kentucky (UK), as well as throughout the Commonwealth. The program supports medical training including continued advanced training for students, physicians, dentists, physical therapists, and other healthcare workers. University of Kentucky Internal Audit (UKIA) engaged this review as a result of a management request as approved by the Audit and Compliance Subcommittee of the Board of Trustees' Finance Committee. Audit objectives were to evaluate the BBP operations and adherence to applicable regulations. Key risks associated with the BBP include:

- Public Exposure: Interacting with the general public and operating a crematory
- Control Environment: Retaining records, providing oversight, and defining roles & responsibilities
- External Factors: Adhering to applicable Kentucky Revised Statutes (KRS) regulations
- Materiality: Reporting financial information and securing data

Since the 1960s, the BBP has provided cadavers to University departments, which includes limited external University use. The BBP is overseen by the Department of Anatomy and Neurobiology (Anatomy), reporting to the College of Medicine. The Program provides approximately 60 cadavers annually. Total operating cost for the program is less than \$150,000 annually. Audit survey results confirm a UK community demand. Survey results also confirm that all benchmarking institutions have existing bequeathal programs. Although BBP has exhibited adherence with applicable KRS registration and usage regulations, noncompliance was exhibited with recordkeeping and crematory operations. During the course of this review, UK Administration implemented resolution strategies to remediate exposed risks. Audit observations pertaining to the BBP are listed in the following categories:

- Governance
- Financial Reporting
- Operations

Management's responses to stated observations will be to reduce and transfer associated risks through procedural enhancements, improved oversight and third-party utilization. The response to each finding is included within this report.

This review has been conducted in accordance with the *International Standards for the Professional Practice of Internal Auditing* issued by the Institute of Internal Auditors.

Scope

The audit focus was to provide reasonable assurance regarding BBP operations in the areas of data reliability, regulatory adherence, information security and governance. Additionally, BBP operations were reviewed in conjunction with state laws and University policies.

The scope period encompassed a review of donor files and data from January 1, 2010 to February 26, 2015. Also reviewed were the files and record books for all BBP inventory located in the University of Kentucky Medical Center's (UKMC) Gross Anatomy Laboratory, Morgue and the BBP Coordinator's Office. UKIA reviewed documentation related to the following:

- Donor files (related to donor numbers 2095 to 2703)
- Donor files and record books for BBP inventory
- Program registrations
- FileMaker (BBP Database)
- Service Center rate structure and financial reporting

The methodology used for this review included interviewing current and previous BBP personnel, benchmarking and customer feedback. Operational practices were reviewed for effectiveness and regulatory adherence; an application review for data security was also conducted.

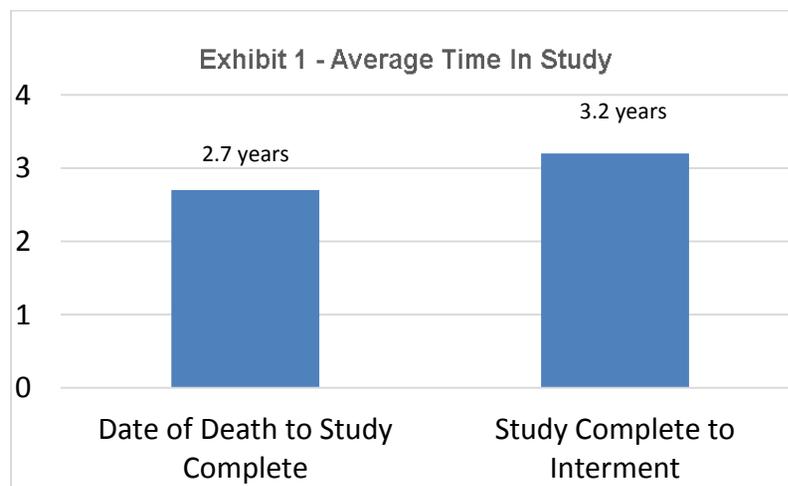
Observation 1: Governance

Governance refers to authority, decision-making, reporting structure, strategic plans and policies. Audit evidence established that the BBP mission statement and policies are inconsistent. UKIA’s assessment of BBP practices against established criteria yielded opportunities for improvement.

Finding 1.1: Oversight

Oversight of BBP is conducted by a committee consisting of Anatomy personnel, which meets at least quarterly. At the time of this audit engagement, the committee was considered the governing authority with the department Chair having final approval. Practices and protocols were implemented based on committee rulings and are not aligned with BBP objectives. The decisions were weighted toward departmental cost rather than considering program objectives.

Although the Program Coordinator has the responsibility for executing the objectives of BBP, a documented reporting mechanism is not in place. An example of appropriate reporting would include the donor’s average time in study as shown in Exhibit 1 below:



Recommendation 1.1: Oversight

Although an interim reporting structure has been implemented, UKIA recommends the following:

1. Create and implement BBP policies to adhere to program governance
2. Metrics should be established and made available to the governing committee to effectively monitor BBP objectives. Metrics should include the following:
 - Registrations received
 - Cadavers received (number accepted and number rejected)
 - Inventory including all specimens (cadavers and cremains) on campus as well as off campus
 - Cadavers that have completed use
 - Time in study
3. Construct a multidisciplinary committee (Governing Committee) to review BBP metrics and strategic goals (operational and financial) for approval.

Management Response 1.1: Oversight

1. During the audit, interim oversight was transferred immediately to the Chair and Clinical Administrator of Pathology and Laboratory Medicine. Several immediate interim operational changes also were implemented. These are summarized below:
 - A. Interim halt of all extramural transfers other than eye bank or UK off site educational programs.
 - B. Cease operation of the crematorium except for tissue disposal.
 - C. Cease receipt of new registration applications until resolution of audit is completed. Continue receiving donations from currently registered applicants.
 - D. Delay celebration ceremony. During summer of 2015 the University will reach out to all current registrants to update their demographic information for input into the data repository and inform them of any changes to the program.
 - E. The College of Medicine (COM) will immediately begin the search for a third party administrator to operate and manage the Body Bequeathal Program.
 - F. The COM will establish a new long-term governance structure.
2. The COM agrees with this recommendation. Various metrics including all IA suggestions will be established and assessed quarterly.
3. The COM concurs with this recommendation and the new governance structure will be established.

Finding 1.2: BBP Reporting Structure

The Anatomy Department has responsibility for numerous programs with various funding models. BBP utilizes the service center model and is subsidized by the department. For the previous 15 years, the BBP has been supervised by a professor (Special Faculty) from Anatomy. Although this current reporting structure offers technical support, it does not provide the fiscal management and operational proficiency required for program success. UKIA observed that the Program Coordinator is directed to facilitate all BBP matters with limited resources.

Recommendation 1.2: BBP Reporting Structure

The program should have a reporting structure that offers both consistency of technical expertise and financial support. UKIA recommends that the BBP change its reporting structure from Anatomy to an organization with University authority having the ability to fully fund the BBP.

Management Response 1.2: BBP Reporting Structure

The COM agrees that the program should move within the College of Medicine administrative structure, which can provide expert oversight of fiscal management and technical operational efficiencies under the direction of the Dean and governance structure described above.

Finding 1.3: Conflict of Interest:

The role of the Program Coordinator as currently constituted is comprehensive and diverse. This role has evolved and expanded throughout the years without a recent review of essential job duties. UKIA observed that the skillset required for this current role includes that of a Manager, Administrator, Cremator, Mortician and Customer Service Representative.

Additionally, the BBP Program Coordinator serves as the Fayette County Coroner. These roles report to separate entities and could create conflicts of interest.

Recommendation 1.3: Conflict of Interest

UKIA recommends the following:

1. Job Analysis Questionnaire should be reviewed and revised as appropriate to fit position responsibilities.
2. This situation should be vetted through the Ethics Committee for job compatibility, as the Program Coordinator also serves as the Fayette County Coroner.

Management Response 1.3: Conflict of Interest

1. As stated above, the COM will hire a third-party administrator to manage the responsibilities of the program. The Program Coordinator position will no longer be necessary and the position will be eliminated.
2. Recommendation 2 is no longer applicable since the Program Coordinator position will be eliminated.

Observation 2: Financial Reporting

BBP operates as a University Minor Service Center as defined by the Business Procedures Manual (BPM) and as such is required to develop rate(s) that will not recover more than costs. Per audit documentation, the BBP has developed two internal and external rates for whole or partial cadavers (See Exhibit 2); the rates have remained the same since FY 2011.

<u>Exhibit 2</u>	
Cadaver Rates	
Internal Whole	\$1,500
Internal Partial	\$225
External Whole	\$1,500
External Partial	\$250

Due to declining funding and increasing BBP costs, Anatomy determined that alternative sources of funding were necessary. Beginning in January 2010, the BBP implemented a burial fee (\$300 per donor if burial requested) and the requirement of donor responsibility for cadaver delivery expense. In addition, a lab fee of \$87.50 per undergraduate student enrolling in newly-developed anatomy labs was approved in FY 2013 to generate revenue to subsidize the BBP. The lab fee was increased to \$90.13 per student in FY 2015 to cover the labor and material associated with the labs. The BBP utilizes the following three accounts to capture financial activity:

1. Service Center-Bequeathal Program (Service Center) – Primary Account
2. Operating Gifts (Gifts) – Gift Account
3. Anatomy and Neurobiology Student Fees (Student Fees) – BBP Subsidy Account

Finding 2.1: Service Center Model and Cadaver Rates

The BBP operates as a University service center and as such should comply with the provisions of the BPM and the Federal Office of Management and Budget (OMB) A-21. As such, the BBP utilizes fees for cadaver usage and has recovered approximately \$82,000 annually. Budget deficits experienced by the program have traditionally been covered by subsidy transfers from Anatomy. The calculation for determining these fees are prepared by a budget officer and approved by the Program Coordinator annually. Although BBP experiences varying costs and units of output (cadavers) to operate the program, rates for cadaver usage have remained unchanged for FYs 2010-15 (see Exhibit 2). Projected expenditures used to calculate the rates for FYs 2011 and 2012 were \$45,900 and \$92,849. Projected expenditures for FYs 2013-2015 rate calculations were \$95,000 each year. The range of actual expenditures for FYs 2010 through 2014 was \$98,000-\$126,000. Audit documentation revealed that the cadaver rates are not based on actual program expenditures and have not been appropriately reviewed and adjusted to ensure costs are being recouped properly.

Recommendation 2.1: Service Center Model and Cadaver Rates

Due to the complexities of operating as a University service center and the size of the BBP budget, UKIA recommends the BBP cease operations as a service center and be directed by a function with University authority and having the ability to fully fund the program.

Management Response 2.1: Service Center Model and Cadaver Rates

The COM will work with University administration to fund the BBP with general funds. The BBP will no longer operate as a service center.

Finding 2.2 Student Lab Fees

In FY 2013, an additional source of revenue was developed to augment the recovery of total cadaver costs. A lab fee of \$87.50 was assessed for undergraduate students attending newly formed Anatomy labs, and is recorded in a separate account, Anatomy and Neurobiology Student Fees (Student Fees) – BBP Subsidy Account. The lab fee was to recover \$70,000 of an estimated \$150,000 of total costs associated with the BBP. For FY 2014, fees collected were \$73,500.

The calculation for student fee cost recovery was based on a FY 2012 projection. Actual BBP expenditures for the period FYs 2010-2014 averaged \$113,000 instead of the projected \$150,000. Consequently, FY 2014 Student Lab Fees collected exceeded the subsidy transferred of \$47,150. Additionally, audit evidence concluded the Student Fees, while subsidizing BBP, are paying for other nonrelated BBP expenses.

Recommendation 2.2: Student Lab Fees

UKIA recommends that student lab fees not be directly associated with the BBP. Other than donations, BBP should be funded by a single source with University authority.

Management Response 2.2: Student Lab Fees

The student lab fee will no longer be assessed.

Finding 2.3: Forecasting

A review of BBP financial information discerned inconsistencies preventing a proper evaluation of operating performance. Program expenditures are randomly recorded in both the Gift and Service Center accounts. An example would be the memorial service expenditures that were recorded in the Gift account in FYs 2011 and 2013; however for FYs 2010 and 2014 these expenditures were recorded in the Service Center account. No memorial services were held in FY 2012. These operating results impede a proper financial forecast.

In addition, BBP operating program revenue is not being recognized in a timely fashion. Internal billings (via Journal Vouchers for internal recharges) are not being recorded until the end of the fiscal year; inclusion of external billings for cadaver usage is delayed until such time that the cash is collected. Audit evidence indicates additional FY 2014 \$12,000 revenue was not recorded until FY 2015. As a result of improper revenue recognition, monitoring and forecasting are hindered.

Recommendation 2.3: Forecasting

UKIA recommends the BBP cease operations as a Service Center which will result in the discontinuance of internal and external billings. With the exception of gifts, the BBP should be fully funded by a single source. Additionally, UKIA recommends that the BBP develop policies and procedures to standardize recording of expenses in a specific account to achieve consistency and integrity in operating results. As a result, the financial reporting will reflect true operating performance and allow for proper forecasting.

Management Response 2.3: Forecasting

The BBP will no longer operate as a service center. The COM agrees that policies and procedures for all operations, including funding, should be developed under the direction of the new governance structure as outlined in 1.1.

Finding 2.4 Burial Fee

Once cadavers have completed the study process, they are cremated. Donors are granted the option of having the ashes returned to family members or to participate in a University sponsored burial. UKIA observed that the \$300 burial fees are being classified as donations instead of a fee for service. The Office of Development prepares acknowledgement letters that include an affirmation of tax deductibility. Internal Revenue Service regulations indicate, to be deductible as a charitable contribution for federal income tax purposes, a payment to a qualified charitable organization must be a gift without reciprocation. Generally, a transfer of service in exchange for cash does not represent a deductible gift.

UKIA also noted in some cases, the actual burial of cremains would take place several years after receipt of the burial fee. UKIA found that the \$300 fee to participate in the burial option and voluntary donations to the program, unrelated to the burial fee, are being comingled into the Gift Account instead of a deferred revenue account.

Recommendation 2.4 Burial Fee

UKIA recommends discontinuing the burial fee requirement. BBP donations should follow the University guidelines.

Management Response 2.4 Burial Fee

The COM concurs with the recommendation. The burial fee will be discontinued. Any donations to the BBP will follow University guidelines.

Observation 3: Operations

Since program inception, there have been a total of three Program Coordinators; the most recent Program Coordinator has been in this position since 1987. Currently, the Program Coordinator is the only BBP full-time employee and has the majority of job duty responsibilities, operating with limited resources. Major components of the BBP process are as follows with component details listed in Appendix A:

- Registration
- Donor Acceptance
- Donor Use
- Study Complete
- Disposition

Responsibility for BBP is within the Anatomy purview and has been overseen by a professor of Anatomy for the past 15 years. These major operational and administrative components are mostly performed by the Program Coordinator. The following are concerns within the BBP:

Finding 3.1: Bequeathal Form

UKIA noted that there were instances where Bequeathal Forms were incomplete or had missing information. Additionally, the form referred to repealed KRSs which have been superseded by the Revised Uniform Anatomical Gift Act. These statutes include KRS 311.1911 to 311.1959.

Recommendation 3.1: Bequeathal Form

UKIA recommends that the Bequeathal Form (UK and donor agreement) should accurately reflect program governance. This form should be updated to reflect accurate state statutes and required information. Additionally, this form should include language related to cadaver usage and donor communication.

Management Response 3.1: Bequeathal Form

The COM concurs with the recommendation and will take steps to update the form accordingly in consultation with the third-party administrator.

Finding 3.2: Data Integrity

UKIA noted that information provided within the BBP Registration forms was inconsistently entered and not updated in the application. UKIA was unable to find information from manual files as to whether or not the documentation and/or the Bequeathal Form was missing. When data integrity is not enforced the risk of inaccurate data is increased. This issue was noted when UKIA performed an inventory on February 26, 2015 in the BBP Coordinator's Office, Gross Anatomy Lab and the Morgue.

Recommendation 3.2: Data Integrity

UKIA recommends that BBP implement a procedure to ensure that manual file integrity and consistency is in compliance with state statutes. This includes updating the database with accurate information. UKIA recommends that the BBP implement procedures for quality checks on data entry. Additionally, if separate cremations are performed on prosections (cadaver sections) of the same donor, the database should allow for the tracking of these cremations to the donor, as required by KRS.

Management Response 3.2: Data Integrity

The COM concurs with the recommendation and will take steps to update the database accordingly, in consultation with the third-party administrator.

Finding 3.3: Database Repository

UKIA observed that the BBP is currently using FileMaker 8 as their primary means for storing electronic data; the BBP collects and stores protected information. As of September 2010, FileMaker ceased support for FileMaker 8 and as a result, technical assistance including updates and patches are no longer available. Database and application software that is no longer supported by the vendor is extremely vulnerable to attacks and malicious software; also, storing protected information without adequate controls elevates the risk of unintended disclosure.

Recommendation 3.3: Database Repository

UKIA recommends that a new database be implemented. Management should develop a procedure to give access based on employee(s) role versus global change access. Additionally, management should implement a procedure to ensure that audit logs are enabled and that there is an adequate monitoring/review of logs.

Management Response 3.3: Database Repository

The COM concurs with the recommendation and will take steps to update the database and procedures accordingly, in consultation with the third-party administrator.

Finding 3.4: Registration

Audit evidence for the scope period reviewed (Exhibit 3) indicated that the BBP registers about 64% of its donors and utilizes an ad hoc registration process. This process is controlled by one person and is not consistent. As a result, the applications are sometimes delayed or not processed. UKIA observed several donor files where registrations were incomplete; therefore, documentation pertaining to vital statistics forms and death certificates were delayed.

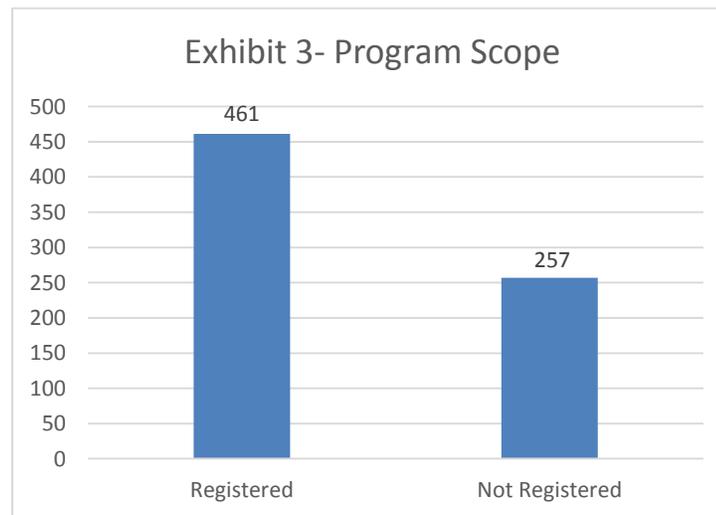
Recommendation 3.4: Registration

UKIA recommends that a formal written process be developed as an extension of the Bequeathal Form and in compliance with Program Governance. This registration process should include the following:

- Program or Donor Requirements
- Program Guides or Instructions for donors to include communication guidelines and BBP contact information

Management Response 3.4: Registration

The COM concurs with the recommendation and will take steps to update the registration process and program guides accordingly, in consultation with the third-party administrator.



Finding 3.5: Donor Acceptance

The BBP existing protocol for body examination includes a review of medical records. These records are obtained from hospitals, clinics and other entities, if possible. In the case of unclaimed bodies, not all records are available. BBP utilizes medical records to gain information such as medical history, cause of death or other data to qualify and accept donors into the program. UKIA found that the BBP accepts donated bodies without performing laboratory testing to ensure the donors are free of infectious or contagious diseases. Additionally, UKIA observed accepted bodies that were not qualified due to other criteria.

Recommendation 3.5: Donor Acceptance

UKIA recommends the following:

1. That all donors entering the BBP follow a consistent protocol as sanctioned through Program Governance. This process should include completion of the Bequeathal Registration Form for all entries for consistent documentation and record keeping. Acceptance protocol requires all received bodies have laboratory testing to ensure the safety of cadaver users. If criteria for acceptance is not met, a rejection protocol should be created and implemented as part of the overall registration process. This registration protocol also applies to unclaimed bodies donated from the Coroner's Office.
2. Proper disposition of cadavers that are considered unusable due to not meeting the BBP's criteria at time of acceptance.

Management Response 3.5: Donor Acceptance

The COM concurs with the recommendation that process, policies, and procedures be developed in consultation with the third-party administrator and these will include donor acceptance, rejection criteria and their implementation.

Finding 3.6: Donor Use

The BBP services are utilized across the Commonwealth; UK utilizes cadavers on campus and in satellite locations, such as Morehead and Hazard. Documentation within each donor file was available, but not conclusive regarding a cadaver research or use location. The Cadaver Study Locations chart (Exhibit 4) shows the number of cadavers as either on-campus or off-campus that were noted by UKIA. The majority of cadavers (91%) are used on-campus. Prior to cadaver use, the majority go through the embalment process. The BBP Coordinator is currently responsible for embalming cadavers, retaining a license per KRS and if necessary transporting donor bodies to off-campus locations. UKIA found that this embalment process is inconsistent and not documented.

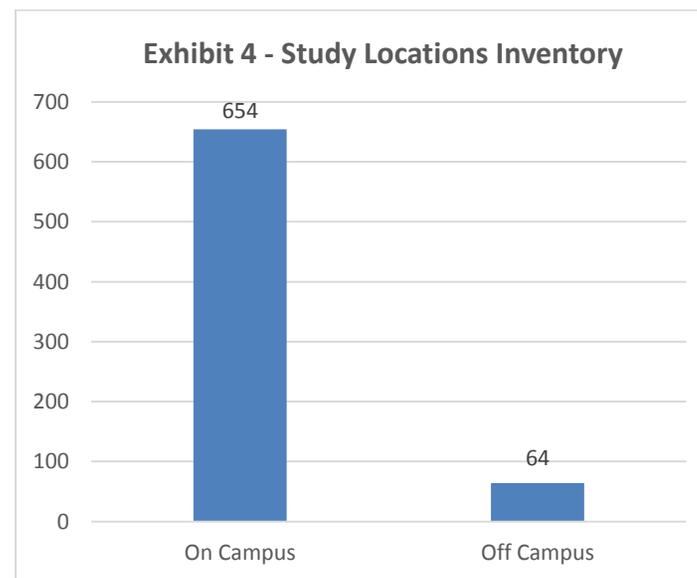
Recommendation 3.6: Donor Use

UKIA recommends that documentation related to donor use coincide with database and registration protocols. This should include the following:

1. Embalment process should be timely and appropriately dated.
2. Transportation service permits should be retained in the appropriate donor files.

Management Response 3.6: Donor Use

The COM concurs with the recommendation and will take steps to ensure that the third-party administrator provides proper documentation related to donor use that coincides with database and registration protocols.



Finding 3.7: Family Communication

The Coordinator's job duties included acting as the liaison for families and other parties regarding donors. UKIA found that the Coordinator was required to act as the single point of contact with the family/others for all BBP matters. Consequently, issues involving excessive communication, lack of communication and misinformation were noted.

Recommendation 3.7: Family Communication

UKIA recommends that BBP implement a procedure for all communications in congruence with program governance.

Management Response 3.7: Family Communication

The COM concurs with the recommendation. Under the newly established Governance structure, specific procedures for communication will be developed, including performance parameters with active monitoring.

Finding 3.8: Disposition

The BBP cremains are buried at the Lexington Cemetery or shipped upon study completion. Audit evidence indicated that the BBP is not burying or shipping cremains in a timely manner. Cremains were found in the BBP inventory to be beyond the informal requirements of 3 to 5 years. Also, cremains were in inventory when documents showed that they had been previously shipped or buried.

Recommendation 3.8: Disposition

UKIA recommends the following:

1. The development of an effective disposition process with measurements to monitor. This should be based on Program Governance and the revised Bequeathal Form. This recorded data should include:
 - Cremation Date
 - Date of burial or cremains shipment date
 - Lexington Cemetery's Disposition number for each donor
2. Proper disposition of cremains that have completed the study and updating the database to accurately reflect inventory.

Management Response 3.8 Disposition

The COM concurs with recommendation and is taking steps to ensure proper disposition of cremains that have completed the study and updating of the database to accurately reflect the inventory.

Finding 3.9: Crematory

BBP cremation process is inconsistent and reliant upon a single employee. The process is time consuming, physically demanding and inefficient for a single user. UKIA could not find a record of cremation dates or required authorizations to cremate. Per KRS statutes, crematory operations require authorization forms and permits from the coroner to be filed with the local registrar for each cadaver cremated. Additionally, the Crematory operated and maintained by the BBP Coordinator, does not have a routine maintenance schedule.

Recommendation 3.9: Crematory

UKIA recommends evaluating alternative cremation measures.

Management Response 3.9: Crematory

The COM concurs with the recommendation and will take steps to find alternative cremation services.

**Body Bequeathal Program Comprehensive Review
Report Number 2015MC02**

Date: April 17, 2015

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UKIA Mission Statement:

To support UK in its pursuit of excellence by providing advisory and assurance guidance to champion reasonable assurance regarding the achievement of management objectives.

Appendix A

Registration

Step 1: Registration for Body Bequeathal Program (BBP), \$300 is taken if after 2010 for burial.

Step 2: Program Coordinator assigns a File Number to the Bequeathed.

Step 3: Information is entered into the database and registration letter and wallet-card sent.

Donor Acceptance

Step 4: Registrant passes away or body is donated, Program Coordinator is notified and assigns a Donor number (\$300 is taken if after 2010 for burial).

Step 5: Program Coordinator works with the family to transport body to UK, speaks with hospital to determine if body is qualified, and completes death certificate and vital paperwork with State.

Step 6: Body is embalmed and is placed into the morgue for 6 months.

Donor Use

Step 7: Body enters study.

Step 8: Memorial Service is planned in May for those donors that are in the program.

Study Complete

Step 9: Body completes the program.

Step 10: Body is cremated and ashes are put into a storage container.

Step 11: Letter(s) sent asking if the next of kin wants ashes shipped or buried.

Step 12: Ashes are shipped or buried. Letters are sent stating the ashes will be shipped or buried in a specified plot at the Lexington Cemetery.

Disposition

Step 13: Burial placement at the Lexington Cemetery is established.

Step 14: Paperwork is completed for burial of ashes.

Step 15: Transportation of ashes to Lexington Cemetery.

Step 16: Ashes are buried.

Step 17: Letter sent to family designating location of ashes at Lexington Cemetery.