Site visit inspection report on compliance with HTA minimum standards

King's College Hospital

HTA licensing number 12378

Licensed under the Human Tissue Act 2004 for the

- **storage of relevant material which has come from a human body for use for a scheduled purpose**

23 February 2017

Summary of inspection findings

The HTA found the Designated Individual, the Licence Holder and the premises to be suitable in accordance with the requirements of the legislation.

Although the HTA found that King's College Hospital (the establishment) had met the majority of the HTA's licensing standards, one minor shortfall was found in relation to the reporting of adverse events.

Advice has been given relating to the Governance and Quality Systems and Premises, Facilities and Equipment standards, as well as to advice on capacity to consent.

Particular examples of good practice are included in the concluding comments section of the report.

The HTA's regulatory requirements

The HTA must assure itself that the Designated Individual (DI), Licence Holder (LH), premises and practices are suitable.

The statutory duties of the DI are set down in Section 18 of the Human Tissue Act 2004. They are to secure that:

- the other persons to whom the licence applies are suitable persons to participate in the carrying-on of the licensed activity;
- suitable practices are used in the course of carrying on that activity; and
- the conditions of the licence are complied with.

The HTA developed its licensing standards with input from its stakeholders. They are designed to ensure the safe and ethical use of human tissue and the dignified and respectful treatment of the deceased. The HTA inspects the establishments it licenses against four groups of standards:

- consent
- governance and quality systems
- premises facilities and equipment
- disposal.

This is an exception-based report: only those standards that have been assessed as not met are included. Where the HTA determines that a standard is not met, the level of the shortfall is classified as 'Critical', 'Major' or 'Minor' (see Appendix 2: Classification of the level of shortfall). Where HTA standards are fully met, but the HTA has identified an area of practice that could be further improved, advice is given to the DI.

Reports of HTA inspections carried out from 1 November 2010 are published on the HTA's website.

Background to the establishment and description of inspection activities undertaken

This report refers to the activities carried out by King's College Hospital (the establishment). The establishment's arrangements under this licence cover predominantly the Liver Unit and Institute of Liver Studies, both based within the hospital. The establishment was issued an HTA licence in February 2007 and was last inspected by the HTA in November 2012. The current inspection was a routine site visit to assess whether the establishment is continuing to meet the HTA's standards.

The establishment is licensed under the Human Tissue Act 2004 (HT Act) for the storage of relevant material for use for a scheduled purpose. In this case, relevant material from living donors is being stored for the scheduled purpose of 'research in connection with disorders, or the functioning, of the human body'.

The DI supervising activities taking place under the licence is the Corporate Medical Director – Quality, Governance and Risk, the (Corporate) LH (CLH) is King's College Hospital NHS Foundation Trust and the CLH Contact (CLHC) is the Associate Director of Governance and Assurance. There are three Persons Designated (PDs) working under the licence: the Liver Pathology Services and Laboratory Director; the Corporate Medical Director – Paediatrics; and a Senior Research Facilitator.

The King's Liver Unit is a large specialist referral centre for both paediatric and adult patients from the southeast of England and for selected patients from other parts of the UK. The associated Institute of Liver studies consists of consulting rooms, research laboratories, a Histopathology Unit (performing routine diagnostic liver pathology) and sample storage

facilities. The Institute contains two Research Tissue Banks (the Paediatric and the Adult Biobanks), which contain both relevant material (liver and hepato-biliary biopsies, resection and explant specimens, whole blood, buffy coat layer, urine, bile and faeces) and other bodily material (serum). The Paediatric Biobank holds 2,800 samples and the Adult Biobank 12,600). There are also three other research collections (99,600 samples) within the hospital but outside the Institute that fall under the licence (see *Advice*, item 5).

Consent and procurement

Samples for research are obtained at clinical consultation. Patients donating include those with liver failure, hepato-biliary malignancy, hepatitis and those undergoing liver transplant (explant samples). Many of the samples are from patients with rare liver disorders.

Consent for Biobank donation is sought by the referring clinician or specialist nurse, who have received detailed training in the consent process. There are standard operating procedures for the paediatric and adult consent process. For paediatric donors, there are age-specific information leaflets and consent and assent forms. For adult donors there are separate leaflets and consent/assent forms for donors with capacity and for those who lack adequate capacity to give consent (see next paragraph). Copies of the consent form are retained by the patient and the Biobank, and a copy is kept in the patient's Electronic Patient Record (EPR).

In cases (e.g. on the intensive care unit) where a patient lacks adequate capacity to give consent, in line with the Mental Capacity Act Code of Practice a 'personal consultee' (usually the patient's next of kin) or 'nominated consultee' (the patient's General Practitioner) provide assent. A patient is asked to confirm these wishes if they recover capacity (see *Advice*, item 1).

Tissue (with the accompanying consent form) is sent to the Histopathology Unit, where research material is dissected away from diagnostic material, and then to the Biobank. Other types of relevant material (e.g. body fluids) go directly to the Biobank with the consent form. Blood samples are ordered via the EPR system. In these cases, the Biobank receives the blood sample consent form after the sample has been logged in (see *Shortfall*, under GQ7).

Receipt and labelling

Upon arrival at the Biobank, samples are checked for paperwork. If necessary, samples are 'quarantined' in storage pending receipt of paperwork (see *Advice*, items 2 and 3).

The Paediatric and Adult Biobanks use separate databases to generate unique identification numbers and labels for each sample. If multiple samples are created from the primary sample, a linked secondary numbering system is used. Both databases are linked to a third database that records the sample location to the detail of position in each sample box. Samples without a consent form are flagged in red on the databases.

Storage

Samples are stored in -80°C freezers in one of two separate storage facilities, one in the Institute the other outside the hospital building. The Paediatric Biobank consists of one -80°C freezer and the Adult Biobank two -80°C freezers. There are two -80°C freezers for contingency storage. A shelf in one of the -80°C freezers is used as quarantine storage.

All freezers are linked to continuous temperature-monitoring units, which feed into an automated, wireless callout system. Temperature excursions outside the set ranges trigger both local audible alarms and the callout system and the system is tested regularly. There are no labels on the freezers indicating steps to be taken if the audible alarms sound (see *Advice*, item 6).

The freezers are under maintenance contracts and there are regular service visits.

Consent forms are held securely in the Institute storage facility.

Sample release

The Biobank Management Committees assess applications for samples. Once approved, an agreement is set up with the applicant. For external sample transfers outside the establishment, a material transfer agreement is set up. To date, one set of samples has been released externally. Samples are released on a 'linked-anonymised' ('pseudonymised') basis; in other words, the researcher cannot know the identities of the donors.

Disposal

Disposal of non-conforming samples is recorded on the database and in the sample log. Non-conforming samples include those without consent documentation, those where consent has been withdrawn and those where sample quality has been compromised.

The inspection process

The timetable for the site visit inspection was developed after consideration of the establishment's previous inspection report, compliance update information and communications with the HTA since the last inspection. The inspection included a visual inspection of the site (sample receipt and storage areas, research laboratories), discussions and interviews with key staff, and a review of documentation. Interviews were held with the DI, two of the PDs, the Paediatric Biobank Manager/Clinical Lead for the Paediatric Biobank, the Biobank Senior Scientist, and the Trust Research and Innovation Manager. Audits of traceability were also carried out.

Traceability audits were performed on 13 samples. These included three samples from the Paediatric Biobank, eight from the Adult Biobank and two quarantined samples (those awaiting consent forms). The samples that were not quarantined were randomly selected from different locations within the Biobank freezers and labelling and location details were compared to the electronic records. Completed consent forms associated with each sample were also reviewed. There was full traceability, with no discrepancies noted. For the quarantined samples, the absence of completed consent forms was confirmed.

Inspection findings

The HTA found the DI and the CLH to be suitable in accordance with the requirements of the legislation.

Compliance with HTA standards

Governance and Quality

Standard	Inspection findings	Level of shortfall
GQ7 There are systems to ensure that all adverse events are investigated promptly.	A recent internal audit of the Adult Biobank revealed that 10% of cases had been stored in quarantine for more than three months without consent documentation. In line with documented procedures, these samples should have been disposed of. The audit was discussed at a governance meeting but no action had been taken.	**Minor**

Advice

The HTA advises the DI to consider the following to further improve practices:

No.	Standard	Advice
1.	N/A	The DI is advised to consider reviewing the arrangements for dealing with donations to the Biobanks from patients who lack adequate capacity to give consent. The DI is advised, in line with the Trust's Medical Ethics Forum, to review the Mental Capacity Act Code of Practice guidance to ensure that it also applies to donations to Research Tissue Banks.
2.	GQ1	The DI is advised to consider using a two-person document checking system to cover issuing and receipt of blood donations to the Biobank. The two-person system should be added to the governance documentation and included in the consent and sample training programme.
3.	GQ1	The current quarantine arrangements are: three months for the Adult Biobank and one month for the Paediatric Biobank. The DI is advised to consider harmonising such arrangements by limiting the quarantine storage time for all samples to one month. This will ensure that non-conforming samples are followed up quickly and that material is not being stored for long periods without consent.
4.	GQ1	There has been a lack of recent local meetings where governance matters relating to licensed activities have been discussed. In the light of a new DI being put in place (December 2016) and new HTA Codes of Practice being introduced imminently (April 2017), the resumption of regular governance meetings is advised. The local governance meetings should include the CLHC, PDs and other staff where necessary (e.g. the Quality and Risk Manager).
5.	GQ4	There are three research collections where NHS Research Ethics Committee (REC) project-specific approval or UK Ethics Committee Authority (UKECA) approval have now expired. There are also thirteen further research collections (approximately 30,000 samples) both within and outside the Institute where the approval will expire in the next two years. Although there is good practice associated with the monitoring of such collections (see 'Concluding Comments' below), the DI is advised to ensure that the governance arrangements already set up for the Biobanks are extended to cover all research collections that fall/will fall under the licence.
6.	PFE3	The DI is advised to consider placing labels on freezers to summarise procedures to take when the audible temperature alarms are activated.
7.	PFE5	There is a contingency plan for offsite storage but the agreement is currently in draft from; this needs to be finalised.

Concluding comments

During the inspection, areas of good practice were noted:

- There is a comprehensive consent and sample training programme for all relevant clinical staff provided at the time of induction, backed up by refresher training.
- There are regular meetings of the Human Tissue Act Committee, which are attended by all six DIs within the Trust and which cover common matters relating to licensed

activities across four sectors.

- Biobank staff undertake monthly audits to routinely check and update the inventory of retained material.
- The Trust Research and Innovation Manager regularly monitors current and new REC- and UKECA-approved projects. When the project expiry date has passed, the Research and Innovation Manager contacts the Principal Investigator to determine the fate of the remaining stored samples.

There are a number of areas of practice that require improvement, including one minor shortfall. The HTA has given advice to the DI with respect to the Governance and Quality Systems and Premises, Facilities and Equipment standards, as well as to advice on capacity to consent.

The HTA requires that the DI addresses the shortfalls by submitting a completed corrective and preventative action (CAPA) plan within 14 days of receipt of the final report (refer to Appendix 2 for recommended timeframes within which to complete actions). The HTA will then inform the establishment of the evidence required to demonstrate that the actions agreed in the plan have been completed.

The HTA has assessed the establishment as suitable to be licensed for the activities specified subject to corrective and preventative actions being implemented to meet the shortfalls identified during the inspection.

Report sent to DI for factual accuracy: 23 March 2017

Report returned from DI: 23 April 2017

Final report issued: 25 April 2017

Completion of corrective and preventative actions (CAPA) plan

Based on information provided, the HTA is satisfied that the establishment has completed the agreed actions in the CAPA plan and in doing so has taken sufficient action to correct all shortfalls addressed in the Inspection Report.

Date: 10 May 2018

Appendix 1: HTA standards

The HTA standards applicable to this establishment are shown below. Individual standards that are not applicable to this establishment have been excluded.

Consent standards
C1 Consent is obtained in accordance with the requirements of the Human Tissue Act 2004 (HT Act) and as set out in the code of practice
• Consent forms comply with the HTA's Code of Practice • Consent forms are in records and are made accessible to those using or releasing relevant material for a scheduled purpose • If the establishment obtains consent, a process is in place for acquiring consent in accordance with the requirements of the HT Act 2004 and the HTA's Codes of Practice • Where applicable, there are agreements with third parties to ensure that consent is obtained in accordance with the requirements of the HT Act 2004 and the HTA's Codes of Practice • Consent procedures have been ethically approved
C2 Information about the consent process is provided and in a variety of formats
• Standard operating procedures (SOPs) detail the procedure for providing information on consent • Agreements with third parties contain appropriate information • Independent interpreters are available when appropriate • Information is available in suitable formats, appropriate to the situation • Consent procedures have been ethically approved
C3 Staff involved in seeking consent receive training and support in the implications and essential requirements of taking consent
• Standard operating procedures (SOPs) detail the consent process • Evidence of suitable training of staff involved in seeking consent • Records demonstrate up-to-date staff training • Competency is assessed and maintained

Governance and quality system standards
GQ1 All aspects of the establishments work are supported by ratified documented policies and procedures as part of the overall governance process
• Policies and procedures are in place, covering all activities related to the storage of relevant material for research in connection with disorders, or the functioning, of the human body • Appropriate risk management systems are in place • Regular governance meetings are held; for example, health and safety and risk management committees, agendas and minutes

• Complaints system
GQ2 There is a documented system of quality management and audit
• A document control system, covering all documented policies and standard operating procedures (SOPs). • Schedule of audits • Change control mechanisms for the implementation of new operational procedures
GQ3 Staff are appropriately qualified and trained in techniques relevant to their work and are continuously updating their skills
• Qualifications of staff and training are recorded, records showing attendance at training • Orientation and induction programmes • Documented training programme, (e.g. health and safety, fire, risk management, infection control), including developmental training • Training and reference manuals • Staff appraisal / review records and personal development plans are in place
GQ4 There is a systematic and planned approach to the management of records
• Documented procedures for the creation, amendment, retention and destruction of records • Regular audit of record content to check for completeness, legibility and accuracy • Back-up / recovery facility in the event of loss of records • Systems ensure data protection, confidentiality and public disclosure (whistle-blowing)
GQ5 There are documented procedures for distribution of body parts, tissues or cells
• A process is in place to review the release of relevant material to other organisations • An agreement is in place between the establishment and the organisation to whom relevant material is supplied regarding the tracking and use of material and eventual disposal or return
GQ6 A coding and records system facilitates traceability of bodies, body parts, tissues and cells, ensuring a robust audit trail
• There is an identification system which assigns a unique code to each donation and to each of the products associated with it • An audit trail is maintained, which includes details of when and where the relevant material was acquired, the consent obtained, the uses to which the material was put, when the material was transferred and to whom

GQ7 There are systems to ensure that all adverse events are investigated promptly
• Corrective and preventive actions are taken where necessary and improvements in practice are made • System to receive and distribute national and local information (e.g. HTA communications)
GQ8 Risk assessments of the establishment's practices and processes are completed regularly and are recorded and monitored appropriately
• Documented risk assessments for all practices and processes • Risk assessments are reviewed when appropriate • Staff can access risk assessments and are made aware of local hazards at training

Premises, facilities and equipment standards
PFE1 The premises are fit for purpose
• A risk assessment has been carried out of the premises to ensure that they are appropriate for the purpose • Policies in place to review and maintain the safety of staff, authorised visitors and students • The premises have sufficient space for procedures to be carried out safely and efficiently • Policies are in place to ensure that the premises are secure and confidentiality is maintained
PFE 2 Environmental controls are in place to avoid potential contamination
• Documented cleaning and decontamination procedures • Staff are provided with appropriate protective equipment and facilities that minimise risks from contamination • Appropriate health and safety controls are in place
PFE3 There are appropriate facilities for the storage of bodies, body parts, tissues and cells, consumables and records.
• Relevant material, consumables and records are stored in suitable secure environments and precautions are taken to minimise risk of damage, theft or contamination • Contingency plans are in place in case of failure in storage area • Critical storage conditions are monitored and recorded • System to deal with emergencies on 24 hour basis • Records indicating where the material is stored in the premises

PFE 4 Systems are in place to protect the quality and integrity of bodies, body parts, tissues and cells during transport and delivery to a destination
• Documented policies and procedures for the appropriate transport of relevant material, including a risk assessment of transportation • A system is in place to ensure that traceability of relevant material is maintained during transport • Records of transportation and delivery • Records are kept of any agreements with recipients of relevant material • Records are kept of any agreements with courier or transport companies
PFE5 Equipment is appropriate for use, maintained, quality assured, validated and where appropriate monitored
• Records of calibration, validation and maintenance, including any agreements with maintenance companies • Users have access to instructions for equipment and receive training in use and maintenance where appropriate • Staff aware of how to report an equipment problem • Contingency plan for equipment failure

Disposal Standards
D1 There is a clear and sensitive policy for disposing of human organs and tissue
• Documented disposal policy • Policy is made available to the public • Compliance with health and safety recommendations
D2 The reason for disposal and the methods used are carefully documented
• Standard operating procedures (SOPs) for tracking the disposal of relevant material detail the method and reason for disposal • Where applicable, disposal arrangements reflect specified wishes

Appendix 2: Classification of the level of shortfall

Where the HTA determines that a licensing standard is not met, the improvements required will be stated and the level of the shortfall will be classified as 'Critical', 'Major' or 'Minor'. Where the HTA is not presented with evidence that an establishment meets the requirements of an expected standard, it works on the premise that a lack of evidence indicates a shortfall.

The action an establishment will be required to make following the identification of a shortfall is based on the HTA's assessment of risk of harm and/or a breach of the HT Act or associated Directions.

1. **Critical shortfall:**

   A shortfall that poses a significant risk to human safety and/or dignity or is a breach of the Human Tissue Act 2004 (HT Act) or associated Directions

   or

   A combination of several major shortfalls, none of which is critical on its own, but which together could constitute a critical shortfall and should be explained and reported as such.

   A critical shortfall may result in one or more of the following:

   (1) A notice of proposal being issued to revoke the licence

   (2) Some or all of the licensable activity at the establishment ceasing with immediate effect until a corrective action plan is developed, agreed by the HTA and implemented.

   (3) A notice of suspension of licensable activities

   (4) Additional conditions being proposed

   (5) Directions being issued requiring specific action to be taken straightaway

2. **Major shortfall:**

   A non-critical shortfall that:

   - poses a risk to human safety and/or dignity, or
   - indicates a failure to carry out satisfactory procedures, or
   - indicates a breach of the relevant CoPs, the HT Act and other relevant professional and statutory guidelines, or
   - has the potential to become a critical shortfall unless addressed

   or

   A combination of several minor shortfalls, none of which is major on its own, but which, together, could constitute a major shortfall and should be explained and reported as such.

   In response to a major shortfall, an establishment is expected to implement corrective and preventative actions within 1-2 months of the issue of the final inspection report. Major shortfalls pose a higher level of risk and therefore a shorter deadline is given, compared to minor shortfalls, to ensure the level of risk is reduced in an appropriate timeframe.

3. **Minor shortfall:**

   A shortfall which cannot be classified as either critical or major, but which indicates a departure from expected standards.

   This category of shortfall requires the development of a corrective action plan, the results of either which will usually be assessed by the HTA by desk based or site visit inspection.

   In response to a minor shortfall, an establishment is expected to implement corrective and preventative actions within 3-4 months of the issue of the final inspection report.

Follow up actions

A template corrective and preventative action plan will be sent as a separate Word document with both the draft and final inspection report. You must complete this template and return it to the HTA within 14 days of the issue of the final report.

Based on the level of the shortfall, the HTA will consider the most suitable type of follow-up of the completion of the corrective and preventative action plan. This may include a combination of

- a follow-up site-visit inspection
- a request for information that shows completion of actions
- monitoring of the action plan completion
- follow up at next desk-based or site-visit inspection.

After an assessment of your proposed action plan, you will be notified of the follow-up approach the HTA will take.