LAB_022 UQBR Managing Adverse Health Events in Mice and Rats (Expiry: Nov 2028)

1. OBJECTIVE and SCOPE

1.1. To ensure all animals that are exhibiting unexpected abnormal behaviour, clinical signs, or demonstrating pain, suffering or distress receive swift and appropriate care, and that veterinary advice and /or assistance is obtained when needed. Appropriate care is care that complies with the Code, supports animal welfare outcomes that are consistent with the approved animal ethics project.

1.2. To ensure that all people involved in the care of animals understand and accept their role and responsibilities. This includes "first responder" animal carers who find an animal that is injured, distressed or in pain.

1.3. To ensure the records of animal monitoring satisfy the requirements of the AEC.

1.4. To document procedures for each UQBR Facility. Please refer to the UQBR Aquatics and QASP for health management in those facilities.

In the event of any widespread abnormal living conditions or health and welfare issues contact the Facility Manager, UQBR Veterinarians and UQBR Director. These circumstances are not within the scope of this SOP. These might include an outbreak of infectious disease, major facility flood, or power outage. Managing these is outlined in other procedures.

Any animal carers or investigators working with animals must be competent to recognise, triage and describe adverse health events. Completion of all relevant UQBR learning modules is required for UQBR staff. Refer to current UQBR training processes.

NB. The use of (*) indicates this statement is dependent on the Facility procedures
NB. The use of (**) indicates this statement is dependent on AEC Approvals
NB. Text in Blue is directly from *The Code*

2. DEFINITIONS and ACRONYMS

2.1. AEC - Animal Ethics Committee

2.2. Abnormal behaviour – This can be the first sign of ill health, it can include but is not be limited to visible problems, such as excessive scratching, reduced activity, abnormal nest building, increased aggression, lameness, decreased appetite, or poor body condition.

2.3. Animal carer: any person involved in the care of animals that are used for scientific purposes, including during their acquisition, transport, breeding, housing and husbandry.

2.4. Contact - reasonable steps made to communicate. This includes landline, mobile and email communication. It cannot be assumed that contact has been made until a response is received. Any verbal contact should be followed with a written confirmation.

2.5. Competent - the consistent application of knowledge and skill to the standard of performance required regarding the care and use of animals. It embodies the ability to transfer and apply knowledge and skill to new situations and environments.

2.6. A Chief Investigator (CI) or Alternate Investigator (AI) are considered responsible for their AEC-approved research animals and are ultimately responsible for the project.

2.7. AEVO – Animal Ethics Veterinary Officer of Research Ethics

2.8. Distress – an animal is in a negative mental state and has been unable to adapt to stressors so as to sustain a state of wellbeing. Distress may manifest as abnormal physiological or behavioural responses, a deterioration in physical and psychological health, or a failure to achieve successful biological function. Distress can be acute or chronic and may result in pathological conditions or death.

2.9. Investigator: Any person who uses animals for scientific purposes. Includes researchers, teachers, undergraduate and postgraduate students involved in research projects.

2.10. Health records (health log) – a daily log, diary, or report that is available in the animal room for notifying all entrants of any changes to an animal's health status or treatment or intervention given. E.g. Animal Identification, Right Sided Intra Peritoneal Injections, Initials of Operator.

2.11. Monitoring - measures undertaken to assess, or to ensure the assessment of, the wellbeing of animals in accordance with the Code. Monitoring occurs at different levels (including those of investigators, animal carers and animal ethics committees).

2.12. Pain – an unpleasant sensory and emotional experience associated with actual or potential tissue damage. It may elicit protective actions, result in learned avoidance and distress, and modify species-specific traits of behaviour, including social behaviour.

2.13. Program of Veterinary Care - system for the provision of veterinary care and advice. Elements of the program should include, where appropriate, animal clinical care; emergency care; preventive medicine; anaesthesia, analgesia and surgery; and animal quarantine. The extent of this program will depend on several factors. For e.g. the size of the establishment, the number of animals involved, the species used, the nature and complexity of the activities conducted (2.1.5).

2.14. Unexpected Adverse Event - an event that may have a negative impact on the wellbeing of animals and was not foreshadowed in the approved project or activity. An unexpected adverse event may result from different causes, including but not limited to:

- death of an animal, or group of animals, that was not expected (e.g. during surgery or anaesthesia, or after a procedure or treatment)
- adverse effects following a procedure or treatment that were not expected
- adverse effects in a larger number of animals than predicted during the planning of the project or activity, based on the number of animals actually used, not the number approved for the study
- a greater level of pain or distress than was predicted during the planning of the project or activity
- power failures, inclement weather, emergency situations or other factors external to the project or activity that have a negative impact on the welfare of the animals. .

2.15. UQBR- University of Queensland Biological Resources.

3. CONTACT DETAILS OF RELEVANT PERSONS

UQBR Director
Mr Kevin Wathen-Dunn
Email: k.wathendunn@uq.edu.au
Office: 07 3346 3863
Mobile: 0411 020 572

Animal Ethics Veterinary Officer (AEVO)
Office: 07 3443 1746

Email: aeu.vet@uq.edu.au

UQBR Veterinarians
Email: br.vetservices@uq.edu.au

4. RESPONSIBILITIES

4.1 The Investigator has a responsibility for all matters that relate to the wellbeing of animals that are in their care. 2.4.1 Investigators have personal responsibility for all matters that relate to the wellbeing of animals that they use, including their housing, husbandry and care. This responsibility extends throughout the period of use approved by the AEC until provisions are made for the animal at the conclusion of their use (*The Code*). Even if animal facility staff are entirely responsible for all routine animal care, the project CI still has overarching responsibility for these animals.

4.2 Investigators must ensure they, or their delegates, remain contactable by UQBR staff in the event of unexpected changes in the welfare or health of their animals. Every project will have a listed CI, AI and Emergency contact. These emails and phone numbers should be easily accessed by animal carers.

4.3 All persons responsible for the care and wellbeing of animals or performing experimental procedures must be competent with the appropriate animal care qualifications and experience. Training on assessing animal health, the use of score sheets and humane euthanasia techniques is available via UQBR or specific UQ training courses.

Within UQBR Facilities

4.4 Within UQBR facilities monitoring of the health of the animals and ensuring a timely response is the responsibility of all staff members. 2.5.15(vi) a Facility Manager, with support as required from the institution and other staff members, and advice from veterinarians, must arrange for experienced

veterinary services in a timely manner, and ensure that staff follow veterinary advice regarding care, husbandry and health of animals, and biosecurity, in the Facility.

Attending Veterinarian roles and responsibilities

4.5 Unless specified and approved otherwise, UQBR's veterinarians provide veterinary care to all animals within UQBR facilities. Any registered Veterinarian approved by the UQBR director can provide veterinary care to animals in UQBR facilities if needed.

4.6 Registered veterinarians including UQBR veterinarians can provide EMERGENCY veterinary care to all animals, without being named as participants on the AEC approved project. This may include providing advice, diagnosis, treatment, anaesthesia, relieving pain or euthanising an animal when it is required to ensure animal welfare. Veterinary medical records MUST be kept for these activities. **The health event should be reported as a UAE unless it has been foreshadowed in the ethics application.** Attending veterinarians should encourage the CI to promptly report all relevant UAEs.

4.7 If the attending veterinarian believes that the project procedures need to be changed to improve animal welfare or scientific outcomes, approval should be sought from the AEC. Urgent amendments may be possible, depending on the circumstances. CIs or veterinarians are encouraged to contact the animal ethics office as soon as possible if urgent amendments are required.

4.8 If the attending veterinarian advises an urgent change to an approved protocol on welfare grounds in a timeframe that does not allow for an amendment, the veterinarian must report this to the AEC. This should only happen when there is absolutely no opportunity to change (for example in the middle of a surgery or anaesthetic). Further work using the changed protocol should not be undertaken until approval is obtained. UQBR/attending veterinarians cannot approve ongoing changes to experimental protocols.

4.9 If veterinarians are to perform procedures as part of the approved project, they should be named investigators on that project. Any investigation of adverse events including necropsies, should not be done by a veterinarian who is listed as a member of the project team. This is to avoid any potential conflict of interest.

4.10 Attending veterinarians can perform minor research procedures that are listed on the "UQBR approved standard tasks" list in the same way other UQBR staff can. For example, a UQBR veterinarian could perform a task (as approved under the ethics) to assist a research team if they were having difficulty with an injection or blood collection.

4.11 If an attending veterinarian is also a named investigator on the project, the potential conflict of interest must be managed. This can be achieved by maintaining separate medical records of any emergency treatment that has not been previously approved and **reporting to the AEC any emergency treatment performed by them on any projects they are named on**.

5. PROCEDURE

Follow any applicable guidelines for handling and examining animals

5.1 Monitor animals appropriately

- Animal living conditions at a cage/pen level must be inspected daily.
- The living conditions in indoor facilities in which animals are bred, held and used must be checked daily and 3.2.1 (i) monitoring and assessment of animals by a competent person with sufficient frequency to ensure that sick or injured animals are promptly detected and identified, and that appropriate action is taken (3.1.7 *The Code*). Note this also applies to outdoor animals.
- Individual animals or cages are examined as per the room specific health log, diary, database, project specific records, or score sheets. **These daily monitoring records are to be stored in a way to make them accessible to all relevant UQBR staff and investigators involved in the project.**
- Monitoring and assessment of animal wellbeing is recorded within the room log, diary, database as per the Facility specific procedure.
- In the event of any abnormal behaviour, visible injuries, signs of pain, distress or other suspected adverse events the animal's condition is to be categorised as being of Low or High level of urgency.
- Prioritise animal welfare and ensure adequate monitoring, assessment, treatment or euthanasia is undertaken. You are responsible for this animal until you have made contact with the research team or UQBR vets and they have made an assessment. The UQ generic scoresheet can be used to assess the animal and calculate a welfare score. This can provide guidance on the level of urgency and when euthanasia is required.

5.2 If an animal is found with adverse health, assess the level of urgency

Low level Urgency. All the following conditions are met.

- The animal appears bright, alert and responsive.
- The *UQ generic score sheet for mice* or *rats* has a total score of less than 5 and no more than 1 in any category. A score indicating low level urgency based on research scoring system used. It is likely the animal will remain stable for 24 hours.

High level of Urgency. Any of the following conditions are met

- The animal is distressed or withdrawn.
- Breathing is laboured or difficult.
- The *UQ generic score sheet for mice* or *rats* has a total score of more than 5, or more than 3 in any one category.
- It is likely the animal will deteriorate, reach a humane endpoint or die.

5.3 Contact all appropriate people and ensure someone responsible (CI, FM, AI, Veterinarian) has received the information in timely way in relation to the level of urgency. Follow instructions from the responsible person.

Procedure on Identification of an unexpected abnormal animal assessed as low level of urgency.

(i) Prioritise animal welfare and ensure animals will be assessed as soon as possible.

(ii) Email the nominated researcher PLUS Chief Investigator responsible for the animal. Respond as advised.

(iii) If no response has been received within 24 hours, reassess the level of urgency and re-email.
If still no response within the next 2 hours, phone the researcher/CI. Do not assume that a CI or AI has been contacted until a response has been received.
Ensure the animal has not deteriorated and that it has received adequate care if needed.

(iv) If there is no response/unable to get hold of the researcher/CI via phone, then re-send the email to UQBR Veterinarians and Facility Manager for advice along with the researcher/CI's emails.

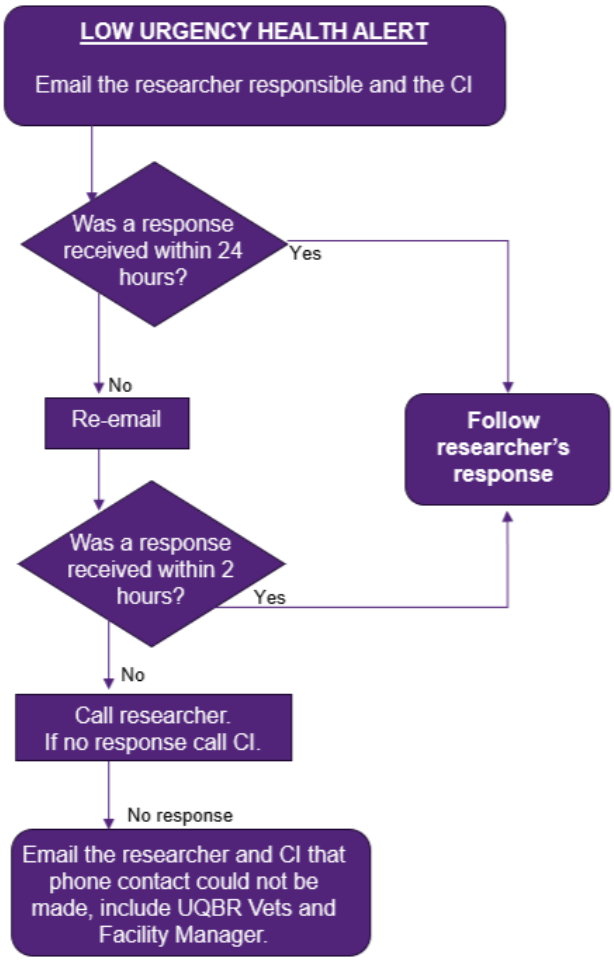

Figure 1 Low urgency health alert.

Procedure on Identification of an unexpected abnormal animal assessed as high-level of urgency

(i) The Code states that the welfare of the animal must be the priority at all times and may necessitate immediate intervention. However, animal carers must also demonstrate that they have made reasonable steps to contact the responsible investigator/s.

(ii) Prioritise animal welfare and alleviating pain, distress or suffering as soon as possible. If euthanasia is required, ensure it is not delayed - refer to 5.7. When the processes outlined in this document have been completed, animal carers are fully supported to respond appropriately and promptly where such a rapid response is required based on humane grounds. This support extends to cages that may be labelled E.g. Do not open cage, as well as to all containment rooms.
Within containment rooms, exposure to hazardous agents including during quarantine periods is unlikely when appropriate personal protective equipment (PPE), engineering controls, and established room practices are correctly followed. This includes containment areas that require specific Queensland health approval for use of controlled substances, such as Cyclophosphamide.

(iii) If euthanasia is not immediately indicated, email the nominated researcher PLUS CI responsible for the animal, plus UQBR Veterinarian/FM, attach high importance signal and ensure that URGENT is in the subject heading (as per template below).

(iv) If no response within 1 hour from the notification, call the nominated researcher/CI. If unable to get hold of the researcher/CI via phone, then email/phone via Teams to UQBR Veterinarians via for advice.

(v) Up to 1 hour is allowed for the researcher/CI to respond including weekdays, weekends and public holidays. This timeframe should be allowed unless there are overwhelming animal welfare concerns and euthanasia is required more urgently.

(vi) If none of the above are available to be contacted (i.e. researchers, CI, UQBR Vets, FM), then UQBR Director or AEVO can be contacted.

(vii) After consultation with the UQBR Veterinarians confirm their advice and the outcome with the researcher/CI e.g. this animal has been euthanised.

See Figure 2 high urgency health alert on the next page

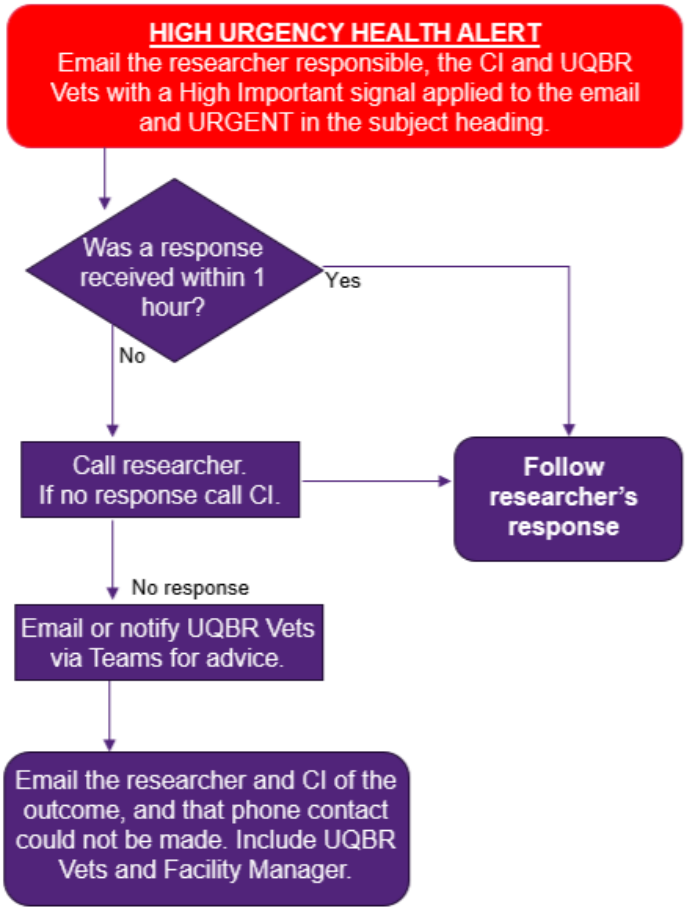

Figure 2 High urgency health alert

5.4 Review project records (if possible) to determine if this is an expected or unexpected adverse event, if scoresheets are available to assess approved humane end points, or if specific health management has been approved for this experiment.

(i) Check project specific information and score sheets. Is this unexpected or is there a protocol for this event? It may be a phenotype of this strain, or an expected outcome of a procedure.

(ii) Check project specific information and score sheets. Is this an expected or a humane end point, or is there a protocol for this event?

(iii) Peruse the records to determine whether other animals within the same room have shown similar signs.

5.5 Place a health alert card on the cage with all required details.

(i) Once a health alert card has been placed (UQBR-REF-099 Standard Health Alert Template) ensure all UQBR, facility and UQ protocols are followed.

(ii) As a minimum, the animal needs to be checked carefully every day for at least one week. Records to show the check has been performed are required.

(iii) Communication should make it clear who is responsible for daily checks, clinical monitoring and any treatment of the animal.

(iv) Treatment plans should be clear and available near the animal. Records should be kept showing what treatment was undertaken.

5.6 Ensure record keeping and responsibility for animal monitoring follows UQ and UQBR procedures

(i) Add all observations into records. Records must be kept of any adverse health events.

(ii) Record the health status using the Facility protocol to identify the individual animal, abnormal signs seen, the date and any other relevant information. Also include this on any Facility specific health logs.

(iii) Enter observations into the Facility specific records.

(iv) Record animal status using Facility protocol to identify the individual animal, abnormal signs that were observed, and date and any other relevant information.

(v) The research team may be responsible for additional project monitoring. Ensure it is clear what responsibility the research team and the animal caring team have for reporting, monitoring and treating this animal.

5.7 If euthanasia is required, ensure it is not delayed. If you euthanise the animal on humane grounds, ensure you keep good records.

(i) Animal carers have a responsibility to maintain animal welfare and should err on the side of alleviating pain and distress in making decisions about euthanising or treating an animal. If an animal carer cannot contact research team staff or supervisors, animal carers have full authority to euthanise animals if criteria are met.

(ii) Use the project scoresheet or generic AEC approved scoresheet to apply a score to the animal. If possible, have one or more other people also score the animal to provide support for your decision. It is also advised to document the nature of the emergency by photo or video.

(iii) If the score on the scoresheet meets the described humane end point and you have been unable to contact the research team or they cannot attend within a suitable timeframe, then you can proceed to euthanise the animal.

(iv) If an emergency intervention was required to euthanise or otherwise treat the animal, the CI or AI, Facility Manager and UQBR Veterinarians must then be notified of the steps taken and reasons for the emergency intervention.

5.8 If the animal dies or is euthanised, follow procedures to label and store the cadaver in case a necropsy is required.

(i) A necropsy is usually required if this is an unexpected adverse event, or the cause of death needs to be investigated.

(ii) The cadaver must be labelled and placed in the refrigerator/cold room until a necropsy can be performed.

(iii) Necropsy is less useful after 48 hours refrigeration.

(iv) You may need to place the cadaver in a freezer when advised to by a veterinarian, or if there will be more than 48 hours before a necropsy is performed. See UQ UAE procedure for details about necropsies and unexpected adverse event management.

(v) Notify the Facility Manager and the lab. Depending on the context this could include the CI or AI.

(vi) Peruse the records to determine whether other animals within the room have shown similar signs or symptoms, or have died.

(vii) Check project specific information and score sheets. Is it unexpected or is this listed as an expected adverse event? Is there a protocol for this event? It may be a phenotype of this strain or an expected death/outcome of a breeding project or procedure.

(viii) If the death is clearly an "expected or foreshadowed" event, then record in Mosaic. Confirm with the CI that they do not want the cadaver of the animal, and that it can be disposed of.

(ix) If it is unclear if the death had been approved as foreshadowed, or the death was unexpected then a necropsy must be performed.

(x) A necropsy should be conducted by a person competent to perform necropsies. This should be a veterinarian and someone independent of the project. Contact the UQBR vets and if they are not available to do the necropsy they will advise you how to best manage this. If someone other than the vets is to do the necropsy they should be independent of the project however if this is not possible project team member may perform the necropsy however this should not be a person that has performed procedures on the animal (to avoid any conflict of interest). Refer to the Unexpected adverse events website page for further information. UQBR-WIN-005 Necropsy checklist may assist to perform a Necropsy checklist if a veterinarian is unavailable.

(xi) At a minimum, the cadaver should be labelled with its unique identifying number, project number, the CI or AI details and the date of death.

(xii) A necropsy and investigation should be performed as soon as possible. Contact the Facility Manager (or UQBR Veterinarians) using the email template in the Appendix to ask the investigators to request a necropsy.

(xiii) Update the Animal Database, room or project diary and/or cage cards.

5.9 Reporting UAEs

The CI is responsible for ensuring that the AEC is notified within 72 hours of any Unexpected Adverse Eventsand for submission of an Unexpected Adverse Event report form within 7 days. As the facility manager is listed on the project, they should try to ensure UAEs are reported by research teams. If the UAE is because of a facility problem (faulty equipment or infrastructure issues), the facility manager should submit a facility UAE. Animal carers and facility managers should follow current UQ and UQBR procedures to ensure animal ethics committees are kept informed of unexpected adverse events as per the Code: 2.4.18 (ix) Investigators must … [notify] the AEC, in response to unexpected adverse events and emergencies, in accordance with institutional and AEC policies and procedures.

6.0 BIBLIOGRAPHY

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2. University of Queensland. (2025). Monitoring animals. Ethics, integrity and compliance. Retrieved from http://www.uq.edu.au/research/integrity-compliance/animal-forms-resources.

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5. University of Queensland. (2025). Generic – generic score sheet for mice. Ethics, integrity and compliance. Retrieved from https://research-support.uq.edu.au/files/55703/Score%20Sheet_Mice_31_08_2021.pdf.

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Version #	Reviewing AEC (note: all other relevant AECs ratify the approval)	AEC Review Date	Outcome
5.0	Anatomical Biosciences AEC, Health Sciences AEC, Molecular Biosciences AEC and Laboratory Biomedicine AEC	March 2022	Approved
6.2	Anatomical Biosciences AEC, Health Sciences AEC, Molecular Biosciences AEC and Laboratory Biomedicine AEC	November 2025	Approved

7.0 APPENDIX

7.1 Suggested Email Template – Animal assessed with a Low-Level Urgency Health Issue:

SUBJECT: Animal assessed with a Low-Level Urgency Health Issue:

Hi (*Researcher as per contact list and relevant staff*),

During health checks this morning we have found the following animal with a health concern:

- CI or AI Name (First or Last name of responsible researcher)
- Strain
- Room
- Colony
- ID and Sex
- Ethics Number
- Observations and if a common condition what disease it may be consistent with (if known)

If you could please check this animal and confirm assessment on the cage card or animal prn and the room documents. UQBR staff and Veterinarians are happy to assist with health assessment.

Please confirm any actions required via email so staff are aware of the action plan for this animal.

As per LAB_022 Managing Adverse Health Events in Mice and Rats we require a response within 24 hr before escalating this for welfare reasons.

Regards

(*Name*)

7.2 Suggested Email and Text Template - Animal Found with a High-Level Urgent Health Concern:

SUBJECT: URGENT - Animal Found with a High-Level Urgent Health Concern:

Hi (Researcher as per contact list and relevant staff),

During health checks this morning we have found the following animal with a URGENT health concern:

- CI or AI Name (First/Last of responsible researcher)
- Strain
- Room
- Colony
- ID and Sex
- Ethics Number
- Observations and if a common condition what disease it may be consistent with (if known)

We require an **IMMEDIATE** response detailing animal intervention or a request for euthanasia. As per LAB_022 Managing Adverse Health Events in Mice and Rats we require a response within the hour. If no response is received this animal may be culled for welfare reasons.

Please confirm any actions required via email or phone so staff are aware of the action plan for this animal. Please provide a phone number, should it be needed.

Regards

(*Name*)

7.3 Suggested Email Template - If High-Level Urgency Health animal is euthanised with or without direction from researcher and relevant UQBR staff.

SUBJECT: Animal Found with a High-Level Urgent Health Concern and was euthanised

Hi (*Researcher as per contact list and relevant UQBR staff*),

Euthanasia has been determined necessary for the below animal for welfare reasons under the direction of the UQBR Veterinary Care Program.

- CI or AI Name (First/Last name of responsible researcher)
- Strain
- Room
- Colony
- ID and Sex
- Ethics Number
- Observations and if a common condition what disease it may be consistent with (if known)

Please contact UQBR vets (br.vetservices@uq.edu.au and CC this email) if a necropsy is needed and advise them if any tissue collections are required. The deceased animal will be placed in the Facility's refrigerator or cold room but can be frozen for necropsy at a later date if advised by UQBR Veterinary services.

You may need to notify the AEC of this adverse event. Please refer to the Unexpected adverse events webpage if you require clarification. Regards

(*Name*)

7.4 Suggested Email Template – Confirming Deceased Animals

SUBJECT: **Animal Found Deceased**

Hi (*Researcher as per contact list and relevant staff*),

During health checks this morning we have found the following animal deceased:

- CI or AI Name (First/Last name of responsible researcher)
- Strain
- Room
- Colony
- ID and Sex
- Ethics Number
- Found Dead

Please contact UQBR vets (br.vetservices@uq.edu.au and CC this email) if a necropsy is needed and advise them if any tissue collections are required. The deceased animal will be placed in the Facility's refrigerator or cold room but can be frozen for necropsy at a later date if advised by UQBR Veterinary services.

You may need to notify the AEC of this adverse event. Please refer to the Unexpected adverse events webpage if you require clarification.

Regards,

(*Name*)