

**Animals in Science Committee
and
Animal Welfare and Ethical Review Body
Hubs Workshop**

3 March 2017

Workshop Report

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This report is not intended to be, and should not be interpreted as, a policy statement or a work plan. The Hubs Workshop was convened and held under the aegis of the ASC's AWERB Subgroup, to promote discussion and shape ideas in the further development of an effective Hubs model and operational procedures. The views summarised in this report are those expressed by attenders of the workshop, and do not necessarily represent the views of the ASC.

1. Summary

- 1.1. The third Animals in Science Committee (ASC) and Animal Welfare and Ethical Review Body (AWERB) Hubs Workshop was convened on 3rd March 2017.
- 1.2. Workshop attenders included chairs of the fourteen regional UK AWERB Hubs, or their nominated representatives, and members of the ASC AWERB Subgroup.
- 1.3. The workshop provided a forum for feedback, discussion and development of ideas concerning:
 - i. The AWERB Hub Support Note;
 - ii. Experience of function from an AWERB Hub;
 - iii. The design of a new e-licensing system;
 - iv. Experimental design and statistics; and
 - v. Good practice and promotion of a 'Culture of Care'.
- 1.4. Four main themes to be taken forward by the ASC AWERB Subgroup and the AWERB Hubs emerged from this workshop:
 - i. Development of aims and objectives by each of the AWERB Hubs. Identification of key hub-specific annual working objectives;
 - ii. Continued improvement in communication between ASC and AWERB Hubs and vice versa;
 - iii. Consideration of training for AWERB Hub chairs and identification of training and support needs for AWERBs; and
 - iv. Hubs to consider how they could help to promote the importance of appropriate experimental design and statistical analysis in research involving animals.

2. Background

- 2.1 The ASC is a non-executive, non-departmental public body set up under Sections 19 and 20 of the Animals (Scientific Procedures) Act 1986, as amended by EU Directive 2010/63/EU [A(SP)A]¹. It is required to provide independent, expert advice to the Home Secretary on matters relating to the acquisition, breeding, accommodation, care, and use of protected animals, as defined by A(SP)A.
- 2.2 Under A(SP)A, both the ASC and Animal Welfare and Ethical Review Bodies (AWERBs) have a mutual responsibility to share good practice. Specifically, the ASC has a role to share, exchange, and promote 'best practice' with AWERBs on matters relating to the acquisition, breeding, accommodation, care, and use of protected animals.

¹[https://www.gov.uk/government/publications/consolidated-version-of-A\(SP\)A-1986](https://www.gov.uk/government/publications/consolidated-version-of-A(SP)A-1986)

- 2.3. To help fulfil this remit, the ASC convened two workshops, in 2014 and 2016 respectively, to develop a communications network across AWERBs and the ASC. A précis of the workshops is provided in Annex A. A national AWERB network based around regional 'Hub' AWERBs was subsequently established. A regional model was chosen as an effective way to achieve cross-fertilisation of ideas and new ways of thinking about the 3Rs and ethical review. These efforts resulted in the current network structure of fourteen Hubs across thirteen UK regions (Annex B).
- 2.4. Following the establishment of the AWERB Hubs framework and the initial development of a Hubs support document, a third ASC/AWERB Hubs workshop was convened (3rd March 2017, workshop programme is at Annex C). This report provides a summary of the discussions and emergent themes reflecting the views of the workshop's attenders.

3. Workshop Attenders

- 3.1. The workshop was attended by the chairs of the fourteen AWERB Hubs or their nominated representatives, members from the ASC AWERB Subgroup, co-opted members and representatives from the Animals in Science Regulation Unit (ASRU). The workshop agenda is provided in Annex C.

4. Themes

The workshop was based around five themes, with presentations or a briefing session for each theme followed by round table discussion of questions developed in advance by the ASC to focus feedback:

- the Hub Support Note;
- experience of Hub function;
- review of the online licensing system (briefing session);
- experimental design and statistics in licence applications;
- good practice and promotion of a Culture of Care.

4.1. The AWERB Hub Support Note

- 4.1.1. The AWERB Hub Support Note was initiated by the ASC to provide a reference point for the chairs of regional Hub AWERBs. It is intended as a living document, to be shaped and refreshed by contributions from the Hubs and from member AWERBs. Attenders of the 2017 workshop received a presentation on the role of the ASC, the ASC AWERB Subgroup and the scope of the AWERB Hub Support Note. Delegates were reminded of the key content of this document, which included the benefits of the Hub approach, operational matters (for example regional structure, tenure and a nominated ASC member for each AWERB Hub), and ASC expectations of the Hubs and vice versa. The difference between the ASC's AWERB Hub network, which facilitates communication between AWERBs and the ASC, and AWERB-UK, an initiative to ensure co-ordination between bodies that undertake AWERB-related activities, was also clarified.
- 4.1.2. Workshop attenders were asked to consider, during the round table discussions, the following questions:

- Does the Support Note provide clarity on the concept of AWERB Hubs and potential benefits?
- Are operational matters explained and in particular the rationale for regional based Hubs?
- Are the ASC's expectations of the Hubs reasonable and realistic? Are there areas that are missing?
- Are the outlined expectations of the ASC in line with your expectations?
- Does the document provide clarity on the difference between the ASC AWERB Hubs network and the AWERB-UK initiative?

4.1.3. Attendees agreed that the Support Note was generally clear and helpful, especially with regard to operational matters. The rationale for regional based Hubs needed better explanation and it was requested that the Support Note incorporate this in its next iteration (*Post-meeting note: This section of the Support Note has been updated*). The concept of regional Hubs appeared to be working well in some but not all cases. Travel between some AWERBs within the same regional Hub would always be difficult for Scotland and the west of England/Wales because the time it takes to travel may be prohibitive. In light of this attendees agreed that the detail of the Hub membership might benefit from minor reorganisation.

4.1.4. There was general agreement that although communication between AWERBs within a particular Hub had improved, this remained an issue due to the restrictions placed on the release of members' personal details under A(SP)A. There was consensus that communication about issues other than practical matters (for example, specific areas of research) would be eased once the regulatory issues around the release of personal contact details were resolved. Attendees noted that over the past three months, the ASC secretariat had been working to collate the consent to share contact information of AWERBs within the Hub network to improve and free up information flow within the network.

4.1.5. The concept of pairing each AWERB Hub with a nominated member of the ASC AWERB Subgroup was considered. The aim of this pairing would be to further develop a two way relationship, consolidating collaboration and communication between the ASC and the AWERB Hubs. Attendees welcomed the idea of each Hub having a nominated ASC member.

4.1.6. Attendees agreed that the AWERB Hubs provided an important opportunity to improve communication between AWERBs, to learn broadly from others' experience and to share good practice. Some AWERBs had yet to respond to communications about AWERB Hubs membership and it was agreed that, although the benefits of Hub membership were still emerging, these needed to be communicated more widely to improve uptake. Suggestions to improve communication included:

- The development of an AWERB Hubs newsletter by the ASC to enable AWERB Hubs to share examples of good practice and highlight the benefits of Hub membership.
- Providing ASRU inspectors with a leaflet highlighting the aims and benefits of the AWERB Hubs. This would instigate discussions between Inspectors and

animal unit personnel about the benefits of AWERB Hub membership during routine inspections.

4.2. Experience of Hub Function

- 4.2.1. Attenders received an overview of the experience of the Mid England East Hub, in terms of what had worked well and what remained challenging. In light of this overview and their own experience of operational issues, attenders were asked to consider the question 'How are you performing your function as an AWERB Hub?'
- 4.2.2. There was consensus among attenders that it would be helpful for each Hub to develop its own clearly defined aims and objectives reflecting the benefits of participation and prompting the engagement of less participative AWERBs. It was agreed that it was not the role of the ASC to provide aims and objectives but rather the Hub member AWERBs should develop them, as appropriate to the structure and organisation of the individual Hub and reflecting its needs and ambitions.
- 4.2.3. The AWERB Hub Support Note indicated that the ASC would be responsible for developing 'indicators of success' to monitor the delivery and benefits of the Hubs. Attenders agreed that it would be difficult to identify generic key 'indicators of success' for successful Hub operation, especially in light of the heterogeneity of the different Hubs with regard to number of members and the size and function of member establishments. Simple measures of success could include levels of communication and engagement and attendance at Hub meetings. Workshop attenders concluded that they would like a clearer indication from the ASC of the type of feedback that they would like to receive from Hubs, for example minutes of Hub meetings. It was agreed that Hubs should set up their own working objectives for the year against which they might monitor their own success.
- 4.2.4. Attenders expressed concern about the burden on resources, especially the cost of hosting AWERB Hub meetings. One suggestion was to develop virtual methods for communication across different AWERBs within a Hub, such as teleconferencing/videoconferencing. To dissipate cost and resource implications, one Hub (with a large number of member AWERBs) had implemented a process of rotating the host venue, with meetings facilitated at different institutions sequentially. Other methods to reduce costs included dovetailing a workshop with a meeting of AWERB chairs. Attenders agreed that it would be helpful, where feasible, to open meetings, conferences and training sessions to other member AWERBs. For example, one Hub member invited other members to a 3Rs seminar that they were running independently. Attenders agreed that such opportunities might be especially helpful for smaller AWERBs with less institutional support.
- 4.2.5. Attenders reported that AWERB Hub meetings held so far had generally been well attended, but agreed that there was a danger that this initial drive could be lost. Attenders recognised the need to maintain traction.
- 4.2.6. Some attenders expressed concern about using a personal or institutional email address for AWERB Hub communications. A solution to this issue used by one AWERB Hub had been to set up a Criminal Justice System email address for each member. JISC Mail (<https://www.jiscmail.ac.uk/>) could also be used to provide AWERB members with a dedicated email address.

- 4.2.7. The workshop also identified training or support needed in a number of areas, including training for AWERB chairs. Attenders noted that the RSPCA and LASA were jointly developing an induction pack for new AWERB members. It was agreed that it would be useful for Hubs to identify training and support needs within AWERB members in their regions and report these to the ASC.

4.3. Review of the Online Licensing System

- 4.3.1. The current e-licensing system for Project Licence applications, Animals Scientific Procedures e-Licensing (ASPeL), expires in August 2017. Procurement must follow Government Digital Services standards and this offered an opportunity to redesign the system. Stakeholders were being invited to propose amendments to the current process to maximise utility and remove duplication.
- 4.3.2. Attenders were invited to some 'blue skies' thinking about the new e-system and agreed that they would co-ordinate a call for input into the new e-licensing system across their respective Hubs with feedback forwarded to the ASC secretariat. Attenders gave their initial thoughts on potential changes to ASPeL during the workshop.
- 4.3.3. Attenders expressed the view that, in the event of a project licence application from an establishment being referred to the ASC, it would be helpful for the AWERB at that establishment to have access to the ASC's comments on this. For example, if an AWERB had advised the Establishment Licence Holder to support a project, but the ASC then identified further opportunities to implement the 3Rs, the AWERB should have the opportunity to reflect on this and address any issues with its own information flow and decision-making process.
- 4.3.4. Attenders also discussed the non-technical summary (NTS) section of the current application form in light of this call for views on the application process. It was accepted that in many cases the lay summary lacked sufficient readability and it was strongly recommended that a lay person read the NTS before submission of the application. In addition, it was proposed that a readability scoring system might be considered for the NTS, using tools such as the Google Readability Index, the Gunning Fog Index or the 'Simple Measure of Gobbledygook' (SMOG) Index. This might help to ensure that lay summaries are understandable by all.

4.4. Experimental Design and Statistics in Licence Applications

- 4.4.1. Workshop attenders received a presentation on considerations of experimental design and statistics in licence applications. The intention of the talk was to further empower AWERBs by providing an overview of how they could help to ensure good quality experimental design in Project Licence applications. Professor Malcolm Macleod offered a positive predictive value (PPV) calculator which assisted in assessing the quality of experimental design and it was agreed that the secretariat would circulate this to all attenders.
- 4.4.2. Workshop attenders were asked to consider the question 'How could your AWERB Hub support AWERBs in reviewing the standard of statistics and experimental design?'

- 4.4.3. Attenders acknowledged that AWERBs should ensure that researchers take appropriate statistical advice during the development of a proposal before submitting a Project Licence application. It was proposed that in the review of an application AWERBs had a responsibility to ask who had been consulted with respect to the statistical analysis and what was the outcome of the statistical advice.
- 4.4.4. Hub representatives acknowledged that not all studies were hypothesis-driven (for example 'trawling' studies such as those involving gene arrays) but agreed that for tests of hypotheses AWERBs should ensure that appropriate randomising/blinding was proposed in the experimental design. In addition, checks should be made that experiments have sufficient power to deliver an appropriate PPV.
- 4.4.5. Although some AWERBs had a statistician as a member of the panel, this was not the case for all. Most AWERBs had access to some form of statistical support. However, in some cases attenders were unsure where AWERBs could obtain statistical advice and acknowledged the potential issue with financial cost if external advice was sought. It was suggested that AWERBs with statistical support might, where possible, share expertise and advice within their hub network and that this could be particularly helpful for smaller AWERBs.
- 4.4.6. It was proposed that AWERBs should encourage researchers to build an element of statistical support into their applications to funding bodies but it was acknowledged that as this is not currently common practice, there could be a time lag before funding bodies receive grant applications with this cost built in.
- 4.4.7. It was noted that research funding bodies do not undertake Harm Benefit assessments nor do they have access to the experimental design included in Project Licence applications, which may vary in the degree of detail. A suggestion was made that the ASC could write to key funding bodies in the UK alerting them to the issue and reminding them that sufficient resource needs to be made available for researchers to obtain statistical advice and conduct experiments which are sufficiently powered to deliver meaningful data.
- 4.4.8. During open discussion, attenders acknowledged that it could be difficult for AWERB members to question experimental design and statistical analyses in Project Licence applications, especially if they felt that they lacked appropriate expertise in this area or where there is insufficient detail on individual design in the application to do so. It was proposed that AWERB Hubs could arrange training days to cover principles of experimental design (for example randomised trials and blinding) and statistical analysis and/or provide a series of layered questions to aid the assessment of experimental design in project applications. For example a Hub might be able to arrange a training session via groups such as NC3Rs, e.g. on the Experimental Design Assistant (EDA) tool, for all of their individual AWERB members and other relevant staff, including scientists.
- 4.4.9. Given the importance of experimental design, attenders agreed that AWERBs should have input from someone with biostatistical expertise. It was agreed that statistical review should be part of the in-house policy for Project Licence applicants and that AWERBS should ask what the outcome of the review was.

4.5. Determining and Disseminating Good Practice

- 4.5.1. Attenders received a presentation titled 'Determination and dissemination of good practice: how is this currently achieved by AWERBs?' This provided an overview of the ways in which good practice was promoted within the AWERB for the drug development company, Covance Laboratories Limited.
- 4.5.2. During discussion, there was consensus that for day-to-day use, the term 'good practice' was preferable to 'best practice' in relation to a Culture of Care because the latter implied that excellence had been achieved and no further improvements were required. Attenders agreed that, within the boundaries of legal obligation under A(SP)A, the definition of good practice was establishment-dependent but that some overarching principles applied.

4.6. Promotion of a Culture of Care

- 4.6.1. Attenders were asked to consider the question 'How are AWERBs promoting a Culture of Care?'
- 4.6.2. Attenders agreed that AWERBs should play a role in ensuring that a Culture of Care is developed and promoted in research, testing, breeding and supplying establishments. Attenders recognised the value of an AWERB visit to the animal facility, giving AWERB members the opportunity to observe current practices and interactions between facility staff. It was suggested that different AWERBs within a Hub could visit the facilities in other establishments as this would provide an opportunity to share good practice.
- 4.6.3. Attenders reported examples of good practice including establishments with animal facilities which run open events for staff, who are not involved in work with animals, and their families. Other facilities provide tours for members of the public, for example groups of school children. These tours give animal facility staff recognition and indirectly promote a Culture of Care. In addition, it was proposed that animal facilities could have photographs of staff along with a brief description of their responsibilities.
- 4.6.4. With respect to assessing the Culture of Care, attenders were cautious with regard to the use of quantitative indicators, because too much emphasis on this might encourage a 'tick box' approach. However, attenders discussed some potential indicators relating to the Culture of Care, e.g. the presence and degree of environmental enrichment for animals and active risk assessment leading to a culture of continuous improvement.
- 4.6.5. Attenders agreed on the importance of interactions between the NVS and the NACWO as an important factor in a commitment to a Culture of Care. The NVS and the NACWO should act as a team and provide leadership and, where appropriate, management. Demonstration of mutual respect between animal facility staff and research scientists provided further evidence of a culture which was likely to encourage good practice.
- 4.6.6. A 'safe' environment to raise concerns, challenge potential failings and to admit to errors was considered essential in the promotion of a Culture of Care. Workshop

attenders agreed that it was important that when things go wrong, people are not afraid to admit this.

4.6.7. Delegates discussed other examples used to engage individuals and culminate in continuous improvement including:

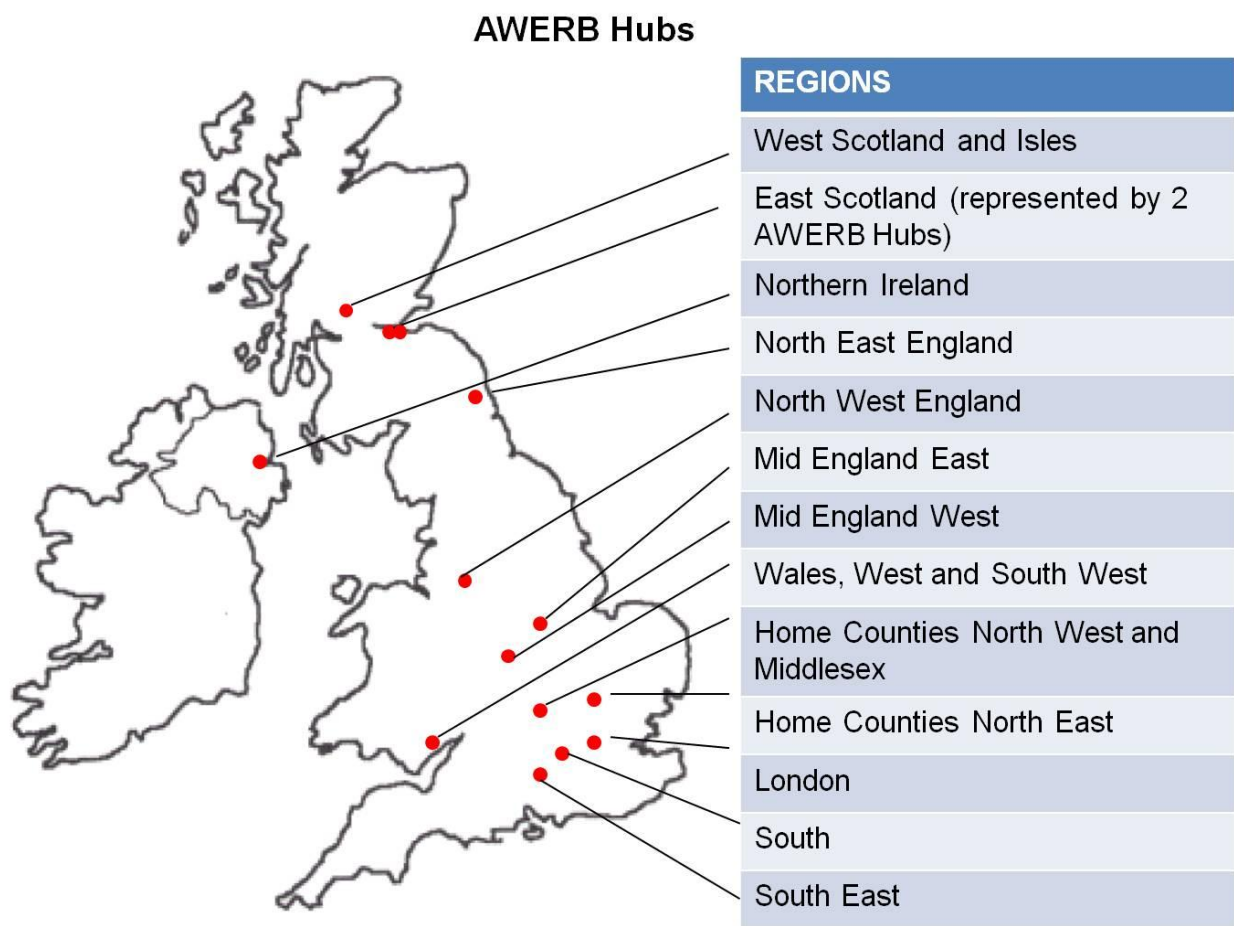
- A facility which has an active risk assessment process and which acknowledges staff for participating in the process.
- A facility which has a Culture of Care pledge on public display for staff to sign.
- An institute which awards a 3Rs prize of vouchers both to reward and give public acknowledgement to those who encourage a Culture of Care.
- Publication of AWERB meeting minutes, redacted as appropriate.
- Some AWERBs which hold 'lessons identified' meetings after each study to which animal technologists are invited. Feedback from animal technologists at these meetings is beneficial because they often observe issues with animal behaviours that the scientists may not be aware of.

History of the AWERB Hubs Network

- A. In November 2014, the ASC convened a workshop during which members of the ASC AWERB Subgroup met with a number of AWERB chairs to discuss promoting 'best practice' in matters relating to the care and use of animals under experimental or scientific procedures². This provided a forum to discuss the associated roles of the ASC and AWERBs, to share experiences and to identify challenges and opportunities. The report of the workshop's findings was used to inform a future work programme which aimed to improve engagement between the ASC and AWERBs and to support AWERBs in fulfilling their legislative remit.
- B. Following the first ASC/AWERBs workshop, it was agreed that a communications network across AWERBs and the ASC should be established. As there are approximately 150 AWERBs in the UK, the ASC concluded that this would best be achieved by the establishment of regional 'Hubs' which would act as a tactical conduit between their local AWERB partners and the ASC. Thirteen AWERB Hubs across twelve UK regions were subsequently established.
- C. In February 2016, a second ASC/AWERB workshop was convened. This was attended by participants representing each of the 13 AWERB Hubs, ASC members and a representative from ASRU. The aims of the workshop included providing attenders with an opportunity to develop an effective AWERB Hubs framework, to contribute to the development of a Hubs guidance document and to define what might constitute good practice. This was achieved through round table discussions based on the following questions:
 - How, and in what forms, can the ASC & Hubs most effectively engage with each other; what should their mutual expectations be and how should they be met?
 - How can Hubs most effectively contribute to the delivery and monitoring of A(SP)A policy on the ground?
 - What should be in the ASC/Hubs statement of aims and ways of working?
 - How will the ASC/Hubs measure the benefits and delivery of the Hubs approach?
- D. Since then, the North England Hub was divided to accommodate the large number of AWERBs within that region resulting in the current structure of fourteen Hubs across thirteen UK regions (Annex B).
- E. Following the establishment of the AWERB Hubs framework and the initial development of a Hubs guidance document, a third ASC/AWERB Hubs workshop was convened on 3 March 2017 (workshop programme is at Annex C).

²<https://www.gov.uk/government/publications/report-of-meeting-with-animal-welfare-ethical-review-body-awerb>

Regional Organisation of the AWERB Hubs



East Scotland is represented by two Hubs



3rd Animals in Science Committee and Animal Welfare and Ethical Review Bodies Hub Workshop

3 March 2017, 10.00 – 16.00

Central Hall Westminster, London SW1H 9NH

10.00 – 10.05	Welcome	Wendy Jarrett, ASC
10.05 – 10.25	Presentation/Q&A Introduction to Hub Guidance Note	Sally Robinson, ASC
10.25 – 10.45	Group discussion/feedback Hub Guidance Note	Sally Robinson, ASC (discussion support)
11.20 – 11.40	Presentation/Q&A Experience from the Hub	Virginia Warren, Hub Chair
11.40 – 12.00	Group discussion/feedback How are you performing your function as an AWERB Hub?	Penny Hawkins, RSPCA (discussion support)
12.15 – 12.50	Briefing session/Q&A and feedback Thinking outside the box: constructing a new project licence application system	Mick Carling, ASRU
13.30 – 13.55	Presentation/Q&A Consideration of experimental design and statistics in licence applications	Malcolm Macleod, ASC (via WebEx)
13.55 – 14.30	Group discussion/feedback How could your AWERB Hub support AWERBs in reviewing the standard of statistics and experimental design?	Clare Stanford, ASC (discussion support)
14.30 – 14.55	Presentation/Q&A Determination and dissemination of good practice: how is this currently achieved by AWERBs?	Tim Jameson, Covance Laboratories
14.55 – 15.30	Group discussion/feedback How are AWERBs promoting a Culture of Care?	Ken Applebee, ASC (discussion support)
15.30 – 16.00	Concluding remarks, emerging themes and next steps	Wendy Jarrett, ASC

Additional Information for AWERBs

During discussion and feedback sessions workshop attenders identified the information sources shown below as particularly helpful for AWERBs.

JRC Science for Policy Report (2016)

Accelerating progress in the Replacement, Reduction and Refinement of animal testing through better knowledge sharing.

<https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/accelerating-progress-replacement-reduction-and-refinement-animal-testing-through-better>

Animals in Science Regulation Unit (2015)

Identification and management of patterns of low-level concerns at licensed establishments.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/512098/Patterns_low-level_concerns.pdf

AWERB-UK Workshop on promoting a 'culture of care' (2016)

<https://www.rspca.org.uk/webContent/staticImages/AWERBUK/Workshop5.pdf>

National Competent Authorities for the implementation of Directive 2010/63/EU on the protection of animals used for scientific purposes (2014)

A working document on Animal Welfare Bodies and National Committees to fulfil the requirements under the Directive.

http://ec.europa.eu/environment/chemicals/lab_animals/pdf/endorsed_awb-nc.pdf

National Competent Authorities for the implementation of Directive 2010/63/EU on the protection of animals used for scientific purposes (2014)

A working document on Inspections and Enforcement to fulfil the requirements under the Directive

http://ec.europa.eu/environment/chemicals/lab_animals/pdf/endorsed_inspection-enforcement.pdf

National Competent Authorities for the implementation of Directive 2010/63/EU on the protection of animals used for scientific purposes (2014)

A working document on the development of a common education and training framework to fulfil the requirements under the Directive

http://ec.europa.eu/environment/chemicals/lab_animals/pdf/Endorsed_E-T.pdf

The National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs). The Experimental Design Assistant.

'The Experimental Design Assistant (EDA) is an online tool to guide researchers through the design of their experiments, helping to ensure that they use the minimum number of animals consistent with their scientific objectives, methods to reduce subjective bias, and appropriate statistical analysis'.

<https://www.nc3rs.org.uk/experimental-design-assistant-eda>

RSPCA and LASA (2015)

Guiding Principles on Good Practice for Animal Welfare and Ethical Review Bodies. A report by the RSPCA Research Animals Department and LASA Education, Training and Ethics Section. (M. Jennings ed.)

<https://science.rspca.org.uk/sciencegroup/researchanimals/ethicalreview/differentsystems/uk>

RSPCA, LASA, IAT, LAVA, ESRC, University of Nottingham (2017)

Delivering Effective Ethical Review: The AWERB as a 'Forum for Discussion'
Report of a workshop on the 'forum for discussion' function, with action points.

<http://view.pagetiger.com/AWERB/AWERB>

Readability scoring system tools

There are several text readability scoring systems which can help Project Licence applicants to ensure that their non-technical summaries are understandable by all, for example the Gunning Fog Index and the SMOG Index. Among the many free online resources the following may be useful because they grade readability using multiple scoring systems.

<https://readable.io/> and <https://readable.io/text/>

<https://datayze.com/readability-analyzer.php>

<http://www.readabilityformulas.com/free-readability-formula-tests.php>

Provisional ASC AWERB SG member/ Hub Pairing

Region/ Hub	ASC AWERB SG member
Northern Ireland/ Belfast	Wendy Jarrett
North West England/ AstraZeneca/ Manchester	Sally Robinson
North East England/ Newcastle	Sally Robinson
West Scotland and Isles/ Strathclyde	John Landers
Mid England East/ Leicester	Penny Hawkins
Mid England West/ Aston	Gilly Stoddart
London/ UCL	Wendy Jarrett
South/ South East / APHA	Clare Stanford
South East/ Pirbright	Penny Hawkins
Wales/ Cardiff	John Landers
Home Counties North West & Middlesex	Clare Stanford
Home Counties North East (Oxford)	Ken Applebee
East Scotland (Edinburgh)	Donald Bruce
East Scotland (Moredun)	Donald Bruce

Additional 'Roving Visits' for John Landers (Chair, ASC)

Post-meeting note: These pairings were considered and agreed at the ASC AWERB Subgroup meeting which took place on 20 April 2017.