

REPORT OF THE VISITING GROUP TO THE INSTITUTE FOR ANIMAL HEALTH

12-16 JUNE 2006

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WHOLE INSTITUTE ASSESSMENT

SUMMARY ASSESSMENT

1. The Visiting Group (VG) recognised that there is a continued national and international need for the Institute for Animal Health (IAH). The institute is home to unique expertise and facilities in animal health and welfare research, providing international leadership in transmissible spongiform encephalopathies (TSEs); emerging and exotic diseases; *Eimeria*; the structure and function of the chicken major histocompatibility complex (MHC); vaccine development; and chicken immunology.
2. In the view of the VG the IAH's unique resources, including transgenic mouse models and scrapie response-defined sheep for TSEs, insect vectors, animal containment facilities, reagents and assays for veterinary species, gnotobiotic cattle, pigs and poultry and MHC-defined cattle and chickens, enables the institute to compete at an international level.
3. Furthermore the institute performs vital public safety and policy support functions at national and international levels, with its diagnostic and surveillance expertise. Its World Reference Laboratories provide training and facilities, ready to respond to emergencies and threats from existing and emerging exotic diseases.

Recommendation 1

The VG confirmed that there is a continued national and international need for the Institute for Animal Health. With its unique expertise and resources, IAH was carrying out internationally competitive research in animal health and welfare as well as fulfilling a vital public safety function in preparedness for disease emergencies.

4. There had been a significant restructuring of the institute in 2005 with the loss of 22% of posts. The VG commended the role of the acting director on his implementation of change management and on reviving staff morale through what had clearly been a difficult period in the institute's history (see also paragraphs 39-40).
5. The VG commended the institute on the overall quality of science across the research programmes. There was evidence of significant added-value from interdisciplinary approaches, encompassing work ranging from molecular to whole animal and population level.
6. In the view of the VG, the quality of the scientific outputs and of the policy advice provided indicated that the IAH was essentially fit for purpose. The VG accepted the forward plans, but felt that full implementation of those plans would require adequate and sustainable levels of funding.
7. In many areas IAH was meeting or exceeding the needs of users although it would be important to ensure that the institute responded appropriately to the changing requirements of national and international end-users. The VG felt IAH needed to take a leading role in setting the agenda for future research in animal health and welfare and exploiting opportunities offered by forthcoming

developments such as the new Easter Bush Research Centre (EBRC) in Edinburgh.

8. The VG felt that the IAH should use horizon scanning and scenario building to inform future strategy. This would also help develop an integrated biology approach for delivering both basic science and end-user outputs including vaccines. At the whole institute level and at individual programme level the institute needed to increase focus and set priorities for translational research, defining clear milestones. This would require realignment between fundamental and translational research in some programmes.
9. The VG highlighted the need for the institute to consider more carefully its strategies for research in avian flu and bovine TB. It felt there was significant potential, and strategic need, to build strong programmes in these areas. In developing areas of work the institute needed to address how best to manage its own resources and skills and how these aligned with national and international priorities, as well as optimising the institute's interactions with key partners.

Recommendation 2

The VG recognised that the focus of IAH's strategy, following the restructuring in 2005, had been to establish a sustainable research base. The VG now recommended that the institute should extend the strategic focus to identify how IAH can meet and shape national and international research priorities. In developing the research strategy the VG recommended a realignment between fundamental and translational research in some programmes, informed by horizon scanning and an assessment of how IAH's skills align with national and international priorities. The VG specifically highlighted the need for the institute to manage carefully the strategy for work on avian flu and bovine TB.

10. In the view of the VG, the institute needed to develop a comprehensive strategy to strengthen its provision of expertise and resources in mathematical biology and bioinformatics across the institute. The VG welcomed the Review of Mathematical Biology across BBSRC-sponsored institutes which was considering provision of applied statistics, bioinformatics and modelling. Given the widely recognised problems of recruitment in this area, it was the view of the VG that capacity building would need to be achieved in part through the development of effective collaborations.
11. The VG also felt that it was essential for the institute to assess its potential for work in systems biology as a means of analysing and integrating complex host-pathogen systems at different scales.

Recommendation 3

The VG recommended that the institute develops a comprehensive strategy for the provision of mathematical biology through development of in-house skills and strategic collaborations. Furthermore the institute should assess its potential for work in systems biology.

12. The VG was impressed by the range of resources at the institute including the unique animal containment facilities and proteomics support. However, for the new facility at Pirbright, the VG emphasised that new equipment must be

appropriate both for world class science and for Defra-funded areas of surveillance and emergency preparedness.

13. In the view of the VG, the institute must continue its hard work to overcome the practical difficulties associated with working across multiple sites. It must also exploit the expertise and facilities available at each site to ensure the whole continues to be greater than the sum of the parts: in many cases this was clearly being achieved, but the VG encouraged the institute to further increase efficiencies in science and non-science activities.
14. Although there were examples of good publications from individuals and programmes, in the view of the VG the institute as a whole needed to be more ambitious in terms of the overall quality of published outputs, and to increase the number of papers in high impact journals.

Recommendation 4

The VG recommended that the institute develops a strategy to increase the overall quality of papers targeting higher impact journals in order to raise the profile of the scientific output of the institute.

COLLABORATION

15. The VG noted the institute's many effective and productive links with different organisations, including universities, veterinary schools, other research institutes and industry in the UK and overseas; such collaborations featured in all programmes. Researchers and senior management understood which skills gaps needed to be filled through collaboration (e.g. in pig immunology, molecular and mathematical biology). Nevertheless there was scope to develop collaborations further, with a need for the institute to be more proactive in leading rather than following.
16. In the light of the 2005 Review of the IAH Science Strategy, the VG was pleased to see an increase in the overall interactions with the Veterinary Laboratories Agency (VLA) across all research at IAH. The VG agreed that improved collaboration with the VLA would bring significant long-term benefits to the institute including the ability to engage in a broader range of science. This could also help the institute maintain its research interests in species, such as sheep and pigs, which were no longer central to the institute's strategy. However, it was not clear that the institute's relationship with the VLA was fully optimised, for example where the institute was a subcontractor to VLA (in bovine TB). In the view of the VG it would be important for the institute to assert itself further in developing scientific links with VLA as the new Veterinary Virology Centre at Pirbright took shape.
17. Some collaborations appeared to the VG to be opportunistic or *ad hoc* arrangements that may have been adversely affected by recent post losses. The VG felt that it was important, particularly for collaborations with veterinary schools, that senior management at the institute takes a higher-level, strategic view when developing such links to ensure that key skills such as veterinary pathology complemented work at the institute in a more sustainable manner.

18. The VG felt that IAH was not always getting maximum benefit from its relationships with industrial and other partners, possibly undervaluing its unique facilities and skills. This may have adversely affected both the quality and quantity of collaborations with several partners, or simply limited IAH's sources of funding. Furthermore the VG was concerned that the Jenner Institute for Veterinary Vaccinology (JIVV), located at Compton and part of a Vaccinology Initiative by Oxford University, was not bringing IAH significant benefits in immunology research underpinning vaccine development.
19. The VG felt that where the institute was leading research at a global level the opportunities for international research collaborations should also be more fully explored (e.g. chronic wasting disease in the TSE programmes and vaccine development with the FMD programme). The VG supported the acting director's ambition to establish a strong link with an overseas academic centre in which the institute could build on its current training role by providing a new source of postgraduate students.

Recommendation 5

In welcoming effective and productive external partnerships the VG considered there was scope to rationalise these collaborations. IAH should aim to initiate and lead effective, productive and sustainable strategic alliances in order to acquire necessary complementary skills, and to promote the unique skills and facilities of IAH to industry and others.

Specifically the VG recommended that the institute:

- i) continues to work more closely with the VLA;*
- ii) reassesses the collaboration with Oxford University in the veterinary Vaccinology Initiative;*
- iii) explores opportunities for collaboration with overseas organisations in areas where the institute was providing international research leadership.*

20. There was clear evidence of effective and productive links with other BBSRC-sponsored institutes including the Roslin Institute (RI) on a number of programmes (e.g. the search for surrogate markers of prion infection in blood in the TSE work). In addition the institute benefited from effective and appropriate use of the RI based ARK-Genomics facility for high throughput '-omics'. With the development of the new proteomics facility at IAH the VG noted that there might be a need to strengthen further links with ARK-Genomics for arrays to avoid unnecessary duplication.
21. It was the view of the VG that the institute should view the emergence of the EBRC as an opportunity to build mutually beneficial strategic alliances that recognise the complementary strengths of RI in genetics and genomics and IAH in infectious disease. The development of the new institute should also provide new opportunities for collaboration with other EBRC partners, for example in immunology with the Edinburgh Royal (Dick) School of Veterinary Studies.
22. The VG was concerned by the apparent duplication of work on host-pathogen interactions in the Food-Borne Zoonoses programme at IAH with that at the BBSRC-sponsored Institute for Food Research (IFR). The VG felt that the

directors should work together with BBSRC to rationalise existing activity and explore areas of future joint activity.

Recommendation 6

The VG commended the effective links with other BBSRC-sponsored institutes and encouraged the acting director to ensure that these were operating efficiently and without unnecessary duplication. The VG recommended that:

- i) the institute optimises the link with ARK-Genomics;*
- ii) the institute thinks strategically about links with RI and other EBRC partners;*
- iii) the acting director consults the BBSRC and the director of IFR to address duplications within food-borne zoonoses research.*

STRATEGIC RELEVANCE

23. It was clear to the VG from the scientific content and overall programme ratings that the institute had genuine strength in fundamental research that was addressing BBSRC Strategic Plan objectives. The institute's approach to the study of biological systems and whole organisms was clearly relevant to the BBSRC priority in Integrative Biology; its research into improved understanding of animal disease (including predictive modelling, epidemiology, immunology, and diagnostics) contributed directly to the BBSRC priorities in Sustainable Agriculture, and the Healthy Organism; key elements of the BBSRC-funded research underpinned the bioindustries (including the food, agricultural and biomedical sectors) meeting BBSRC's priorities in this area.
24. The VG also highlighted the institute's important role in contributing to the public good and to public safety through its surveillance and diagnostics work and by providing national and international capability and expertise in infectious diseases.
25. The VG agreed that the mix of BBSRC and Defra funding enabled the institute to integrate expertise across basic, strategic and applied research. The VG cited the Foot-and-Mouth Disease (FMD) programme as an exemplar of interdisciplinary work with continuity from strategic to applied research and with well defined deliverables. The VG was concerned, however, that there was not always sufficient effort in translational activity in some research (e.g. in the Vaccinology Programme) and the VG considered it essential that IAH reconsiders its rationale for translational research to ensure the long-term sustainability of the institute.
26. Following the recent restructuring, the institute was focusing on two animal species of significant economic importance to the UK (cattle and poultry), a decision partly driven by the remit of the new Pirbright facility with its emphasis on foot-and-mouth disease. Overall, the VG supported this approach, noting that some limited work on strategically-important diseases of pigs and sheep would be continued but that underpinning work on these animals should primarily be provided through external collaboration.
27. The VG noted that there had been a shift in balance of the institute's research portfolio from endemic to exotic pathogens. This would continue with the transfer of the TSE work into the new EBRC in 2007. In the view of the VG it was

important for the institute to maintain the capability to respond to the need for research in both endemic and exotic pathogens. The VG recognised the problems associated with changes in Defra support, which was increasingly focused on exotics, and stressed the importance of diversifying the funding base to maintain a sufficiently broad portfolio of work and associated expertise.

Recommendation 7

The VG supported the focus on cattle and poultry but recommended that the institute develops a clear strategy for ancillary and supporting work on pigs and sheep. The VG also acknowledged the increasing shift towards exotic pathogens and recommended that the institute maintains its capability to respond to the future need for research on endemic and exotic pathogens.

SCIENCE AND SOCIETY

28. The VG commended the quality and breadth of communications activities described in the presentation, particularly considering the difficult period the institute had been through following restructuring. Liaison with the agricultural community and with communities local to institute sites seemed to be particularly well-developed and ingrained within IAH's normal business.
29. In the view of the VG, the challenge to which the institute must now rise, was to prioritise the many potential audiences with which it could potentially interact and define the objectives and outcomes it wanted to achieve within its science and society agenda.
30. The VG commended the new appointment of Head of Corporate Affairs and Communications who would be central to the development and implementation of the new science and society strategy at the institute. As a scientist moving to a completely different role within the institute the new appointee would need support and training, and the VG suggested IAH considers establishing an internal group to inform the development of the new strategy, in consultation with the Governing Body. To build upon existing activities and ensure support from across the institute, measures needed to be put in place to ensure all staff could feed into strategy development and create broad ownership of the end result. The IAH group would benefit greatly from external advice, e.g. from BBSRC Swindon Office, other BBSRC-sponsored institutes and other relevant organisations. Once the strategy was in place, the institute might need to re-assess the resources needed to implement and maintain it.
31. There was clear evidence of motivation and enthusiasm to take part in science and society activities from staff at the formal presentation who described the clear two-way benefits of engaging with different audiences. The VG particularly noted the enthusiasm shown by graduate students present. It was not clear however whether this commitment pervaded the institute; for example no mention was made of science and society in the acting director's written overview statement and there was little discussion during the presentation about how staff were encouraged and empowered to take part. The VG felt that these issues should be considered as the new science and society strategy was developed, and that the new Head of Corporate Affairs and Communications should work

- with IAH's senior management to ensure that the objectives and outcomes of the science and society strategy were part of the overall institute strategy.
32. The institute had benefited in the past from a close working relationship with the Science Media Centre and tailored media training for key scientists. The VG was surprised, however, that there did not appear to be formal procedures for dealing with media and external enquiries. It was not clear, for example, how enquiries were filtered before being passed on to relevant scientific staff for response. Trained scientists should be given opportunities to comment where appropriate and the institute should be prepared for enquiries on current and emerging areas of public interest and concern. Where scientists were contacted directly by the media the Press Officer should be made aware of the responses provided. In certain cases it would be appropriate for only the director to make press statements. The VG considered it essential that a protocol for dealing with media and external enquiries should be put in place with clear guidelines made available to staff.
 33. Commendable efforts had been made to update the institute website. Since, at the time of the visit, the new website consisted of only a few pages, the VG suggested that the institute might consider removing it until the new science and society strategy was in place and there had been time to consider target audiences and key messages. The original website contained a lot of information and factual updating of the site should continue until a new complete website, building on the work already done and developed in line with the new strategy, was ready to be launched.
 34. The institute had a positive message to communicate about the use of animals in research, in that protecting animal health was of interest and concern to public audiences. IAH needed to consider carefully how it chose to communicate on this sensitive issue, and the VG commended the existing dialogue with groups such as the Coalition for Medical Progress and the Research Defence Society who could advise on this area.

Recommendation 8

The VG recommended that the IAH should produce a science and society strategy for the institute with clearly defined, tractable aims and objectives for how the institute responds to societal needs. The strategy should provide clear guidelines with protocols for dealing with media and external enquiries. Account should be taken of the provision of appropriate resources and training to implement the strategy and of encouraging input and ownership from the entire staff.

STUDENTSHIPS AND FELLOWSHIPS TRAINING (SFT)

35. The VG endorsed the SFT report. In light of the recommendations in the SFT report, the VG welcomed the setting up of a single Academic Committee which included student representation. The VG also stressed the continued need for a dedicated postgraduate tutor to coordinate postgraduate student issues, including transferable skills training, student welfare, careers advice and managing the diverse interactions with the many universities at which students were registered.

36. The VG expressed concern about the fall in student numbers following a recruitment freeze during the recent restructuring. The VG stressed the importance of maintaining an active student population at IAH both to sustain the local postdoc population and to maintain animal sciences skills at national and international levels. The VG also felt that the institute should encourage and promote senior independent externally-funded fellowships at IAH including developing individuals already based at the institute.

Recommendation 9

The VG endorsed the SFT report, but underlined the need to increase the currently small ratio of PhD students to PIs, and emphasised the importance of coordinating effort in this area. It also recommended that IAH addresses the lack of independent externally-funded research fellows.

KNOWLEDGE TRANSFER (KT)

37. The VG endorsed the KT report although it noted that the strength in vaccine development related to past achievements and was no longer the case.
38. The institute was generating income from: patents and licenses; vaccine development; diagnostics; and contract research. However, reflecting its concerns about the need for having the right balance between translational and fundamental research, the VG felt the institute should develop a more coordinated and coherent business plan for IP and other outputs across the IAH research programme. In this respect the VG welcomed the appointment of a Business Development Manager.

Recommendation 10

The VG endorsed the KT report and welcomed the appointment of a Business Development Manager. It recommended that the institute develops a more robust and comprehensive strategy for KT and business development to maximise the exploitation of IP arising from its science.

BUSINESS PLANNING AND ORGANISATION

39. Given that significant changes had taken place during restructuring, the VG was impressed with how well the institute was responding. Staff morale appeared remarkably high and the VG felt that this was in large part due to very effective change management, with good leadership from the acting director.
40. The VG noted that, in addition to developing the science strategy, the acting director was overseeing the recent restructuring as well as the negotiations over Pirbright. The VG welcomed the recent appointment of a Deputy Director of Operations, but felt that the acting director and the Governing Body should consider whether additional senior support in the executive team was needed to ensure that the new director could focus on their main duties.

Recommendation 11

The VG was impressed with the acting director's good leadership during the restructuring process. It recommended that consideration be given to strengthening the

executive team to allow the new director to focus on their main duties related to the implementation of the science strategy.

41. Overall, staff appeared supportive of the organisational changes, although this was less clear in relation to the new matrix management structure. Divisional and programme organisations in this structure seemed to the VG to be artificial. In some cases, this resulted in a lack of focus and coherence (e.g. in the VAC programme), although other programmes (e.g. FMD, TSEs, PMHI) were problem driven and had clear foci. It was understood that many of the changes had been driven by the process of restructuring and the requirement to organise 'programmes' for the VG assessment, and had been accomplished over a short timescale. However, the VG was not convinced that the structures were yet right, and felt that these should be revisited to ensure that appropriate structures, and review processes, were in place.

Recommendation 12

The VG was not convinced that the new organisational structure was working satisfactorily. It should be reconsidered and appropriate audit procedures introduced to assess the effectiveness of the Divisional and Programme structures.

42. The need for external independent scientific advice was a strong recommendation from the 2005 Review of the IAH Science Strategy. The VG was disappointed that this had not been taken up more proactively. Although it had established a Science Strategy Panel with membership including senior IAH scientists, a representative from the Governing Body and two external senior scientists, and had held an annual 'retreat' to bring in the wider IAH science community, the VG was not convinced that these measures were sufficiently robust and detached to provide independent scientific advice. The VG considered that formal arrangements should be put in place to increase the level of independent advice from leading scientists, drawn from the UK and international animal sciences communities.

Recommendation 13

The VG recommended that IAH puts in place arrangements involving international scientists to obtain vigorous, independent, high-level scientific advice on all aspects of its research programme.

43. The VG noted that some areas of research were dependent on a small number of key individuals, or were vulnerable because of recent or impending staff losses through retirement, resignation or redundancy. Although the institute had benefited from in-house recruitment (for example, most postgraduate students obtained their first postdoc position at the institute), it needed new-blood appointments as well. The VG felt that the institute needed to develop a clear strategy for succession planning, recruitment and retention of key staff, which prioritised skills gaps. This should include plans to attract senior research scientists and senior independent fellows to the institute. The VG highlighted the potential for external recruitment in areas relevant to human disease (e.g. avian flu, food-borne zoonoses and TSEs) which might widen the recruitment pool. Work in these areas could also open up the possibility of increasing and diversifying the institute's funding base.

Recommendation 14

The VG recommended that the institute prepare a prioritised programme for succession planning, recruitment and retention, including senior research appointments and independent research fellows, to develop and sustain the international reputation of IAH.

44. When asked to identify significant constraints on the operation of the institute, the acting director cited the high running costs of research, particularly for large animal facilities, and that the institute was operating without sufficient headroom, for example to make new strategic appointments. The VG supported the acting director's view that the cost-effectiveness and management of all activities within the institute should be reviewed to achieve greater operational flexibility. It felt moreover that this should include an assessment of requirements at the institute and at national levels, to achieve further efficiencies (e.g. in provision of animal facilities).
45. The VG considered the potential advantages and disadvantages of working across multiple sites. Following the move of the NPU to the EBRC in 2007, IAH activity would be focused at the Compton and Pirbright sites. The £120M+ Pirbright Site Redevelopment Programme (PSRP) due to be completed by 2011 would provide a new facility and would include the virology department of the VLA. Compton would continue to be home to unique animal containment and gnotobiotic facilities; its unique sheep TSE facility enabled large experiments with appropriate containment to be undertaken. The VG accepted that the institute would face significant practical difficulties in any attempt to relocate staff and facilities on a single site and agreed that both sites should be maintained.
46. Every effort would be needed to ensure that the two site model did not compromise the scientific mission, and that all cost-effective methods to increase scientific efficiency should be explored. The VG welcomed the recent professional audit of the Compton farm commissioned by the institute. This aimed to reduce existing losses and generate income, whilst ensuring that the farm continued to meet research requirements for livestock. The resulting plans included an essential, if gradual, migration of staff from Civil Service terms and conditions, and associated pay scales. In the view of the VG the institute should consider bolder plans to increase the overall financial and operational efficiency of the farm, although it was recognised that this would need to be carried out in consultation with BBSRC. The VG felt that professional audits could also usefully be applied to other areas of institute activity (e.g. animal occupancy rates in containment facilities; decommissioning of redundant facilities; management of on-site housing; and the more effective use of the Jenner building, which was, in the view of the VG, appeared to alarmingly under-used at the time of the visit).

Recommendation 15

Whilst recognising the important steps the institute was already taking to improve the cost-effectiveness of its operations in some areas, the VG recommended that IAH develops a clear, bold estates strategy to increase operational efficiency to create financial headroom to strengthen the scientific programme. The estates strategy should include the farm, occupation and use of laboratories and large animal facilities at Compton and Pirbright, taking account of national demands and resources for specialist facilities for large animal research.

47. The acting director also raised concerns about the impact of full economic costing (FEC) on the cost and competitiveness of the institute's research. At the time of the visit the institute's income came from the BBSRC Core Strategic Grant and grant income, competitively won from BBSRC and commissioned or competitively won from Defra, with smaller amounts from industry, charities, foundations, the EU and other Research Councils. Against a background of declining funding from, most notably, Defra, the VG felt the institute should be proactive in securing a more diverse range of funding by, for example, more fully exploiting the potential for biomedical application of IAH research (to attract funding for example from the Wellcome Trust for basic immunology, and the US National Institutes of Health for TSEs work). Furthermore the VG felt that the institute needed to explore all possible mechanisms with BBSRC to recover costs following the implementation of FEC for grant applications and where this is not possible, as for charities, to put in place a transparent mechanism to ensure that overall the full economic costs of all institute research are met. The VG recognised that in exceptional circumstances this may mean using core strategic grant to offset shortfalls in economic costs of strategically important commissioned work.

Recommendation 16

The VG recommended that the institute diversifies its funding sources, including exploiting the opportunities offered by organisations such as the Wellcome Trust and NIH; IAH should also use the BBSRC Core Strategic Grant to support the full costs of research where appropriate.

48. The VG was concerned that the PSRP did not appear to include a budget for equipment renewal and maintenance. The VG agreed that it would be essential for such a vital national and international facility to be properly equipped, and was surprised that this was not part of the original negotiations. The acting director should open negotiations with the principal stakeholders (Defra, VLA and BBSRC) to ensure that when the new facility opened it was properly supported by state-of-the-art technology.

Recommendation 17

The VG was concerned by the absence of a clear business plan for the sustainable replacement of equipment in the new Pirbright facility, and recommended that the acting director opens urgent discussions with the principal stakeholders to ensure this important national and international facility would be properly supported by appropriate technology.

RESEARCH FOOTPRINT

Research footprint assessment summary					
	Number of programmes in each assessment category				
BBSRC-funded	High international	Inter-national	High national	National	Unsatisfactory
	1	1			
Externally-funded	Outstanding	Good	Satisfactory	Unsatisfactory	
	1				
Mixed programmes	High international	Inter-national	High national	National	Unsatisfactory
	2	2	1		
	Outstanding	Good	Satisfactory	Unsatisfactory	
	3	1	1		

Programme	BBSRC	External
Arbovirology and mathematical modelling (AMM)	International	Outstanding
Food-Borne Zoonoses (FBZ)	International	Satisfactory
Mechanisms of Host Resistance (MHR)*	International	-
TSE: Transmission and Intervention (TSE1)	High international	Outstanding
TSE: Host Susceptibility and TSE Agent (TSE2)	High international	Outstanding
Vaccinology (VAC)	High national	Good
Foot-and-Mouth Disease (FMD)+	-	Outstanding
Pathogen-host molecular interactions (PHMI)*	High international	-

*BBSRC funded, not rated on external score
+Externally funded, not rated on BBSRC score

ANNEX 1: MEMBERSHIP AND ACKNOWLEDGEMENTS

- i. The Institute for Animal Health (IAH) was reviewed by a Visiting Group (VG) between 12 and 16 June 2006. The VG comprised:

Professor C A Gilligan (chair)	University of Cambridge
Professor C Dorman	University of Dublin
Dr M Francis*	Schering-Plough Animal Health, Uxbridge
Dr A A Holder	National Institute for Medical Research
Professor L A King	Oxford Brookes University
Professor C I Lasmezas*	Scripps Florida
Professor T T MacDonald	Barts and The London Queen Mary's School of Medicine and Dentistry
Professor D Onions*	Invitrogen, Glasgow
Professor O A Papadopoulos	Aristotle University of Thessaloniki
Professor C W Penn	University of Birmingham
Professor M A Stanley OBE	University of Cambridge
Dr P Stevenson	Defra
Professor C R Stokes	University of Bristol
Dr M Tas	Defra
Professor A J Teale	University of Stirling
<i>*Attended for part of the visit</i>	

- ii. The Group was joined by additional experts to review the institute's contributions to the Science and Society agenda:

Mr C Johnson OBE	Independent
Dr J Gunning	Cardiff Law School

The following BBSRC staff also attended: Professor Julia Goodfellow*, Professor Nigel Brown, Dr Doug Yarrow*; Dr Mari Williams*, Dr Bill Eason, Miss Caroline Dow, Dr Huw Tyson, and Mr Peter Hurrell.

**Attended for part of the visit*

ACKNOWLEDGEMENTS

- iii. The VG was most grateful for the welcome and hospitality extended by the acting director and staff of the institute and to the transparency and openness of the discussions. This had done much to contribute to a highly enjoyable and smooth-running visit. The VG also appreciated the considerable amount of background work that had been undertaken by the institute in preparation for the visit.

ANNEX 2: REPORT ON STUDENTSHIPS AND FELLOWSHIPS TRAINING ASSESSMENT

BIOTECHNOLOGY AND BIOLOGICAL SCIENCES RESEARCH COUNCIL

2005 INSTITUTE ASSESSMENT EXERCISE

STUDENTSHIPS AND FELLOWSHIPS TRAINING (SFT) ASSESSMENT

VISIT TO THE INSTITUTE FOR ANIMAL HEALTH: 7 OCTOBER 2004

INTRODUCTION

1. The Institute for Animal Health (IAH) was visited by a BBSRC Studentships and Fellowships Training (SFT) assessment panel on 7 October 2004. The SFT assessment forms part of the Institute Assessment Exercise (IAE). The SFT panel comprised two members of the Committee on Studentships and Fellowships (CSF): Dr Malcolm Skingle (GlaxoSmithKline; chair) and Professor Tony Wilkinson (University of York). The panel was accompanied by staff from BBSRC Swindon Office: Dr Ian Lyne (Head of Postgraduate Training and Fellowships) and Dr Bill Eason (Evaluation and Policy Unit).
2. The visit was informed by a background paper prepared by the Institute, which provided the basis for a meeting with senior Institute staff with designated responsibilities for postgraduate and postdoctoral training. The panel subsequently met a group of postgraduate students from IAH for an informal, free-ranging and confidential discussion about their experiences and expectations of the training provided by the Institute. In addition, the panel viewed examples of laboratory and office accommodation used by students at IAH, Compton, together with some of the site's specialised facilities. At the time of the visit there were no recipients of BBSRC David Phillips postdoctoral fellowships (or equivalent early career fellowships) at IAH.
3. In assessing its provision of postgraduate training, the panel had regard to IAH's effectiveness in meeting the requirements of the Joint Statement of the Research Councils Skills Training Requirements for Research Students (http://www.bbsrc.ac.uk/funding/training/skill_train_req.html) including:
 - Research skills and techniques
 - Research environment
 - Research management
 - Personal effectiveness
 - Communication skills
 - Networking and team working
 - Career management

In making its assessments the panel considered a range of factors which contribute to the delivery of the requirements set out above, including the environment and facilities; links with universities; supervisory practice; generic training and pastoral care and the student community.

4. The panel provided an overall assessment in three key areas:
 - Provision of research-based training
 - Provision of generic, non research-based training
 - The quality of the training environment
5. Each aspect was assigned to one of three broad categories
 - (i) good
 - (ii) adequate
 - (iii) unsatisfactory

PROVISION OF RESEARCH-BASED TRAINING

Overall rating: Good

6. The panel noted that IAH was widely regarded as a leading centre for work on infectious diseases of livestock offering a broad range of facilities and expertise. This was recognised by the students at IAH who benefited from facilities and expertise at both the Institute and their registering university. Amongst the students the panel saw, many cited the reputation of IAH as one the main reasons for choosing to do their postgraduate studies at the Institute.
7. About half the IAH students were based at Compton, with around one-third at Pirbright and one-sixth at the Neuropathogenesis Unit (NPU) in Edinburgh. At the time of the visit, approximately fifty students were distributed over the three sites. About half of all students were funded directly by IAH , with a further 25% funded through BBSRC studentship competitions. The remaining students were funded from a range of sources (e.g. industry, levy boards). There had been a recent reduction in the number of students funded directly by IAH resulting in a fall in total student numbers (from over 60 in 2003). The number of students funded directly by IAH was expected to decline further for the 2005 intake. IAH senior management recognised that, in future, student funding from external sources would need to be increased significantly as a proportion of total student funding. The panel supported the efforts being made to obtain studentship funding from a more diverse range of sources.
8. Students were registered at a wide range of universities, typically between 10-15 different universities in any one year. This diversity resulted partly from IAH being on three different sites, two of which (Compton and Pirbright) were not located close to universities. The NPU site was the exception, benefiting from its location at Edinburgh University with which it had established links and where all students were registered. The panel was generally impressed with how the Institute was managing relationships with all their partner universities. Almost 90% of university supervisors were based in 5 and 5* RAE rated departments. Compton and Pirbright were also developing strong and effective links with key university partners. This included ongoing discussions with the University of Oxford for a joint vaccinology programme which, it was hoped, would further strengthen existing links and increase overall student recruitment. Additionally Pirbright had developed good links

with Surrey University for the virology work and a number of students were registered there. The panel endorsed the Institute's approach to increasing the quality of its university links. This was of benefit to both Institute and university and also to the development of the wider IAH research programme.

9. Until recently each site had its own Academic Committee (AC). In the last year student representatives had been invited to join the ACs at Compton and Pirbright (although not at NPU). Staff and students reported that student representation on the AC had worked well. It had resulted in a number of new initiatives in response to issues raised by students, including a mentoring scheme in which each student had a tutor appointed to them, who was outside the group in which they were working. It was reported that this had been particularly useful where there had been problems with student-supervisor working relations. However, at the time of the visit, IAH senior management was proposing to replace the three existing ACs with a single AC for the Institute as a whole. One of the major aims of this was to increase consistency in postgraduate training policy across all three sites. However, students felt uninformed of, and uninvolved in, the Institute's plans.
10. The panel welcomed the development of the Institute-wide Academic Committee, but felt that more should have been done to keep students informed of the developments, and to involve them in the changes. The panel endorsed the intention to concentrate on the development of a consistent Institute-wide policy on student training, monitoring and assessment, but recommended that individual staff-student committees be retained at each site to deal with immediate and site-specific issues. Student representation would best be served through participation on each site committee, which should then feedback relevant issues to the Institute-wide AC.
11. It was clear to the panel that students were generally receiving excellent levels of support from both IAH and university supervisors. Most students reported that their university and IAH supervisors were helping to shape their work and most also reported good contact levels. The panel was impressed by the quality of the students seen. A number of third year students had already produced refereed publications and one student had recently won the Society for General Microbiology's Young Microbiologist of the Year prize. Evidence of the diligence of the students and supervisors at IAH was the consistently high submission rates (typically more than 90% of students submitting within 4 years).
12. General policy on student training and assessment was set out in the IAH document "Information for Postgraduate Students and Supervisors". Students reported that they were expected to attend a minimum number of seminars and journal clubs. Failure to do so was meant to result in supervisor follow-up, although practice appeared to vary by site and Division. Although some students felt they had to attend too many meetings, the majority appreciated the structures that were in place, particularly at the relatively isolated Compton and Pirbright sites. Students received additional specific skills training as required. This included work in other groups at IAH and also training at the partner university. Although the panel was satisfied that students were generally receiving good research skills training there was

some concern about the lack of consistency across sites with respect to the enforcement and content of mandatory components. Furthermore training records maintained by IAH Human Resources (HR) only included training arranged directly by HR. The panel recommended that all student training be recorded centrally. The new IAH Academic Committee should be responsible for overseeing this process.

13. The panel was satisfied that the progress and monitoring arrangements in place were effective. All students produced a first year report, an assessment of which governed whether the student would continue to receive financial support from IAH and progress from an MPhil to a PhD (subject to university approval). After this, progress reviews took place every 6 months until the third year, during which students had review meetings/progress reports every 3 months. All stages were recorded. The panel recommended that progress report forms, together with student training records, be held centrally. This combined training and progress record should create a student “log book” which the panel recommended should form the basis of regular discussion between student and supervisors to keep training needs under review and to monitor skills development. The Institute and the student should share responsibility for ensuring training needs were met. The IAH Academic Committee should be responsible for overseeing the training and progress of each student in line with the development of Institute-wide policy.
14. Each student was allocated an Institute Principal Supervisor. To become a Principal Supervisor staff needed to have successfully co-supervised two students or to have successfully completed the Training and Accreditation Programme for Postgraduate Supervisors (TAPPS). Although this was no longer an active programme at IAH, senior staff (who had had a major role in developing TAPPS) were in discussion with the Higher Education Academy, the body coordinating schemes for the accreditation of HE lecturers (<http://www.heacademy.ac.uk/>), to see if they would be interested in taking it on as a national resource. Problems with poor supervision at IAH were dealt with informally and the Institute senior management cited examples where students reporting difficulties, had been moved to different supervisors. Informal procedures also appeared to operate in setting the maximum number of students a supervisor could be responsible for. The panel recommended that the policy on supervisor training and monitoring be strengthened. It should include clear procedures and criteria for the allocation of students to supervisors and for the removal of supervisor status if necessary. In addition mandatory training options (for new and existing supervisors) should also be introduced.
15. The Institute was in the process of considering plans for using the flexibility available in its Doctoral Training Account (DTA). Given the announcement that IAH’s quota studentships would be provided in the form of a DTA had come relatively late in the academic year, IAH had decided to retain standard three-year studentships for the 2004 intake, pending the formulation of an Institute-wide policy on the structure of four-year programmes. The Institute was considering a four-year rotational model for the 2005 intake although no decision had yet been taken. The panel endorsed this approach, but recommended that the main priority for IAH was to establish the appropriate

representative structures across all IAH sites to help inform the development of all aspects of studentship training policy, including DTAs, through the new IAH Academic Committee.

16. The Panel had further discussions, with individual students and privately, the record of which is restricted to a confidential annex.

PROVISION OF GENERIC, NON RESEARCH-BASED TRAINING

Overall Rating: Adequate

17. All students attended mandatory training courses on writing and communication skills. Students at Pirbright also had to attend EndNote® (bibliographic management) training. Although other training opportunities existed (e.g. statistics) these did not appear to be mandatory. The panel was concerned that only a limited transferable skills programme was in place at IAH. The development of an enlarged and mandatory training programme that applied to all students should be a priority for the new Academic Committee.
18. Only two students had attended a UK GRAD School. The HR department had recently distributed a circular promoting attendance, but take-up had clearly been poor. A significant minority of students (mostly from Pirbright) were not aware of the UK GRAD Schools. The panel recommended that more be done actively to promote attendance at UK GRAD Schools and that further efforts be made to improve communication of such information to students.
19. First destinations data showed that most students at IAH remained in science following their PhD studies, with the largest number remaining as post-docs at IAH. Students reported that supervisors and other staff at IAH were excellent sources of support and advice in mapping out their future careers in science. Participation in the BBSRC Biotechnology YES competition was also cited as a useful introduction to a career in industry. However the panel was concerned at the lower level of support for students considering non-science career paths. Students were able to get support from their university careers advisors, but access to this was affected by the distance between students and their host universities. The panel recommended that more be done by the Institute to provide careers advice and support for those students considering non-science career options.

THE QUALITY OF THE TRAINING ENVIRONMENT

Overall Rating: Good

20. IAH had produced a “Charter for Postgraduate Students”, which usefully set out what was expected of the Institute and of the student during a studentship at IAH. This covered issues such as the level of stipend, access to on-site accommodation, leave, maternity leave, absence, health and safety, and behaviour.

21. Students had access to a unique range of facilities (e.g. containment facilities; large animal accommodation; unique experimental animals such as MHC-defined cattle), which would not normally be available in a university environment. This was complemented by wide-ranging expertise across IAH's broad scientific programme.
22. The panel viewed examples of student laboratory and desk space at Compton. These appeared to be satisfactory with students having designated laboratory and writing areas. However the panel was concerned by reports, particularly by students from Pirbright, but also by some students at Compton, that desk/writing space in particular was limited, as was access to computers. Furthermore there were differences between Research Divisions in the amount of office and laboratory space available. The panel recognised that the problems at Pirbright were partly associated with having extensive containment areas, and that this affected staff and students alike. At Compton it was also recognised that containment laboratories could not readily be reorganised to meet changing demands. The new Academic Committee should, however, when vetting the scientific merits of any new studentship project, also consider the resource and space implications. Ideally all students should have designated laboratory and office space with access to a designated computer.
23. The panel was impressed by the strong sense of community among the student populations from each site. At Compton and Pirbright this was strengthened by the availability of on-site accommodation. Many students had taken this option, and most recognised its value given the relatively isolated locations of the sites. The accommodation included single rooms, flats and houses. Facilities at Compton included an on-site crèche and social club. Students also reported that the Institute made them well aware, during recruitment interviews, of the potential practical problems of undertaking their studies at these remote locations.
24. A small number of students received slightly higher levels of stipend. Most students, however, received the same level of stipend (£14,700 pa at the time of the visit), which was guaranteed by the Institute through top-up payments as required. This, together with the availability of the on-site accommodation, further strengthened the sense of community amongst the students. The panel was impressed that the Institute valued its students and maintained high levels of pastoral care.

GENERAL COMMENTS

25. Overall the panel was satisfied that most students at IAH were receiving excellent levels of training and support. The panel was impressed by the availability of on-site accommodation and the increased stipend. It was clear from submission rates, first destination data, and from the enthusiasm of the students themselves, that IAH was doing a good job in preparing the next generation of scientists working in animal health research, with many students staying on at IAH for their first postdoctoral position.

26. The panel endorsed the move to a single Academic Committee for IAH. This would address the panel's concerns about some aspects of training and supervision that were not consistent or sufficiently well developed across all three sites. Nevertheless, site staff-student committees should be retained to enable immediate and local needs to be addressed. This structure would help to improve student representation and communication between staff and students.
27. Given the panel's concerns about inconsistencies in the provision of training and working environment across the three sites, it felt that IAH would also benefit from an assessment of student requirements for research and generic skills training as well as office/laboratory space and facilities. This should take the form of a student questionnaire, developed in consultation with student representatives. This should inform the development of an Institute-wide studentship training policy by the new Academic Committee.

SUMMARY OF RECOMMENDATIONS

Recommendation 1

The panel welcomed the development of the Institute-wide Academic Committee, but felt that more should have been done to keep students informed of the developments, and to involve them in the changes. The panel endorsed the intention to concentrate on the development of a consistent Institute-wide policy on student training, monitoring and assessment, but recommended that individual staff-student committees be retained at each site to deal with immediate and site-specific issues. Student representation would best be served through participation on each site committee, which should then feedback relevant issues to the Institute-wide AC.

Recommendation 2

The panel recommended that all student training be recorded centrally. The new IAH Academic Committee should be responsible for overseeing this process.

Recommendation 3

The panel recommended that the policy on supervisor training and monitoring be strengthened. It should include clear procedures and criteria for the allocation of students to supervisors and for the removal of supervisor status if necessary. In addition mandatory training options (of new and existing supervisors) should also be introduced.

Recommendation 4

The panel endorsed the Institute's approach to the introduction of the Doctoral Training Account, but recommended that the main priority for IAH was to establish the appropriate representative structures across all IAH sites to help inform the development of all aspects of studentship training policy including DTAs, through the new IAH Academic Committee (Recommendation 1).

Recommendation 5

The panel was concerned that only a limited transferable skills programme was in place at IAH. The development of an enlarged and mandatory training programme that applied to all students should be a priority for the new Academic Committee.

Recommendation 6

The panel recommended that more be done actively to promote attendance at UK GRAD Schools and that further efforts be made to improve communication of such information to students.

Recommendation 7

The panel recommended that more be done by the Institute to provide careers advice and support for those students considering non-science career options.

Recommendation 8

The new Academic Committee should, when vetting the scientific merits of any new studentship project, also consider the resource and space implications. Ideally all students should have designated laboratory and office space with access to a designated computer.

Recommendation 9

Given the panel's concerns about inconsistencies in the provision of training and working environment across the three sites, it felt that IAH would also benefit from an assessment of student requirements for research and generic skills training as well as office/laboratory space and facilities. This should take the form of a student questionnaire, developed in consultation with student representatives. This should inform the development of an Institute-wide studentship training policy by the new Academic Committee.

The following documents were tabled at the meeting:

Information for Postgraduate Students and Supervisors
Charter for Postgraduate Students
IAH Academic Committee Structure
List of IAH Seminars
List of IAH Journal Clubs
IAH Foundation Course
Student Questionnaire and Analysis
Samples of student progress forms and HR training records