Global Regulators Are Key Partners in the Effort to Refine and Reduce Animal Use in Pharmaceutical Development

IQ 3Rs LG U.S. Regulatory Outreach Working Group

B. R. Berridge

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IQ Symposium 2014 – “Pre-competitive Collaboration for Innovation”
Membership and Mission

• **Members**
  - Audrey Stewart (J&J), Mike Breider (Celgene), Ann Jernigan (Pfizer), Gloria Gaito (Pfizer), Brian Berridge (GSK)

• **Mission**
  - 3Rs LG- To promote sharing and integration of high quality **scientific practices** to advance the Reduction, Refinement and Replacement of animals used in the discovery and development of new medicines, vaccines, medical devices and health care products for humans and animals.

  - WG- To understand and influence regulatory impact on animal use in pharmaceutical development to maximize scientific impact.
Approach

• **Identify stakeholders and interdependencies**
  • Regulatory, governmental- USDA, FDA
  • Non-regulatory, governmental- ICCVAM, EPA
  • Pharma- IQ DruSafe, DMLG, CPLG
  • NGO- UK NC3Rs

• **Blueprint current effort**
  • IQ DruSafe- history of FDA interaction and coordinated effort related to animal use in regulated safety studies
  • DMLG- history of FDA interaction relating to clinical micro-sampling; potential opportunity for animal micro-sampling
  • CPLG- significant customers of animal data for clinical trial design
  • ICCVAM- time of transition
  • NIH/FDA/DARPA- Microphysiological Systems Initiative
  • UK NC3Rs- U.S. support for CRACK IT

• **Engage**
  • EPA- Tox21 Initiative
  • ICCVAM
  • FDA
Identifying a gap

• Balancing support with innovation
  • Considered animal use in pharma relative to current areas of focus by IQ partner groups
    • Gap = animal studies supporting PK/PD modeling
  • Growing scientific concern and critique

Is animal research sufficiently evidence based to be a cornerstone of biomedical research?
Public acceptance of the use of animals in biomedical research is conditional on it producing benefits for humans. Pandora Pound and Michael Bracken argue that the benefits remain unproved and may divert funds from research that is more relevant to doctors and their patients

Pandora Pound medical sociologist1, Michael B Bracken Susan Dwight Bliss professor of epidemiology2

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Can Animal Models of Disease Reliably Inform Human Studies?

H. Bart van der Worp1, David W. Howells2, Emily S. Sena2,3, Michelle J. Porritt1, Sarah Rewell2, Victoria O’Collins2, Malcolm R. Macleod1

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Interesting conversation...

- With Agency management- “There is no specific requirement for in vivo pharmacology studies so you do those for your decision-making.”
- With pharm tox reviewers- “We look at that data for evidence of disease-associated safety risks.”
- With pharma investigators- “Regulators expect to see that data and have asked for it.”

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PART 312—INVESTIGATIONAL NEW DRUG APPLICATION

§ 312.23  IND content and format.

(ii) A summary of the pharmacological and toxicological effects of the drug in animals and, to the extent known, in humans.
....and Opportunities

- Joint LG manuscript **proposal**- “Role of Animals in Human Drug Development: Too much for too little?”
- Joint LG FDA roundtable **proposal**- “Animal Research Supporting Drug Development in an Age of Growing Critique”
  - possible globalization
- ICCVAM and AOPs
- Drug modeling of the future

NIH Funds Next Phase of Tissue Chip for Drug Screening Program
Published on Drug Discovery & Development (http://www.dddmag.com)

NIH’s Tissue Chip for Drug Screening initiative is a collaboration between the NIH, Defense Advanced Research Projects Agency (DARPA) and U.S. Food and Drug Administration (FDA). NIH has committed nearly $76 million over the course of the five-year program, which was launched in fiscal year 2012.
Impact- TBD