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

9 October 2014

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 sociologist*[1], Michael B Bracken *Susan Dwight Bliss professor of epidemiology*[2]

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Research in Translation

Can Animal Models of Disease Reliably Inform Human Studies?

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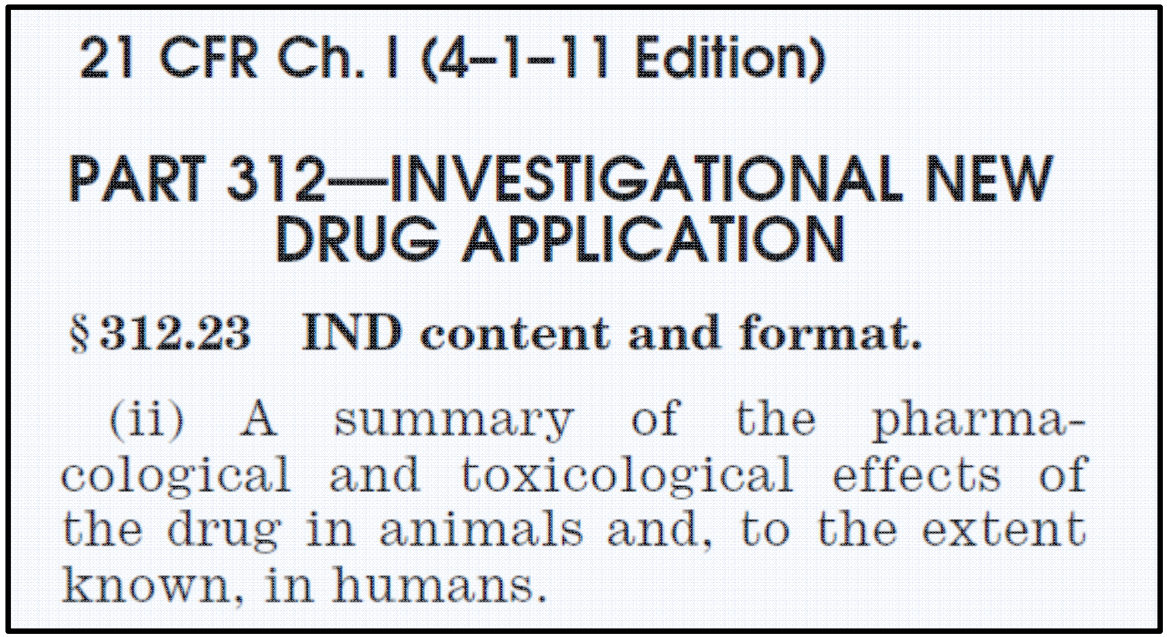
Interesting conversation…

- 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.”



21 CFR Ch. I (4–1–11 Edition)

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

Sutherland *et al. Stem Cell Research & Therapy* 2013, **4(Suppl 1)**:I1
http://stemcellres.com/content/4/S1/I1

stem cell research&therapy

INTRODUCTION Open Access

The National Institutes of Health Microphysiological Systems Program focuses on a critical challenge in the drug discovery pipeline

Margaret L Sutherland*[1], Kristin M Fabre*[2] and Danilo A Tagle[2]

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

NIH Funds Next Phase of Tissue Chip for Drug Screening Program

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