Coronavirus research – anything goes?
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The RSPCA and animal research

Implementation of the 3Rs –

Full replacement is the ultimate goal (Directive - Recital 10)

Robust ethical review – challenging whether, and how, animals are used

Work constructively with governments, regulators, industry, academia, and other NGOs in the UK, EU and internationally
Impact of the pandemic

• Devastating human suffering and distress on a global scale
• Huge effect on people's lives and livelihoods
• Urgent and legitimate need to address this
• Does this mean that ‘anything goes’?
  • NO – for scientific, practical and ethical reasons
Different approaches taken

- Epidemiology
- Computer modelling
- *In vitro* studies, including organs-on-chips
- Clinical trials
  - Including repurposing of existing drugs
- Animal ‘models’

Nobody can predict the extent to which each of these will contribute to any successful outcomes
Race to develop new animal ‘models’

- Mice, rats, hamsters, ferrets, new- and old-world primates etc
- Can involve severe suffering and mortality
  - Young ferrets infected with coronavirus had no symptoms, but 93% of older ones died
  - Hamsters ... lost weight, became lethargic, and developed ruffled fur, a hunched posture, and rapid breathing

Review in Science: doi:10.1126/science.abc2335
/negative-aspects-for-animals

How monkeys, ferrets, and horses are helping scientists fight Covid-19

Meet The Animal Heroes Of The Coronavirus Pandemic

These fuzzy friends are working alongside their humans to do essential work in the coronavirus pandemic, which ranges from bringing smiles to isolated seniors to providing promise for a preventative vaccine.

These Lab Animals Will Help Fight Coronavirus

Scientists are ramping up the breeding of lab mice as well as the te...
‘Desperation science’

• US Dept of Health and Human Services *Operation Warp Speed* has led to vaccine efficacy trial ...

• ... but risks of proceeding at ‘breakneck pace’ have been highlighted in clinical trials
  • Low quality studies, lacking rigour
  • Duplication of effort

Zoë McLaren, PhD
@ZoeMcLaren

Desperate times call for desperate measures - evidence-based medicine.

2:38 AM · Apr 17, 2020 · Twitter Web Client

906 Retweets and comments  3.3K Likes

Negative aspects for animals
"Because everything is rushed and because many people, mostly well-intentioned, are working on COVID19, there is so much noise that everyone is struggling to separate signal from noise.

We have already seen a flood of dubious and retracted research, and a lowering of normal scientific standards. Bad science, combined with poor science communication, is eroding public faith in research and is leading policymakers astray".

Madhukar Pai - McGill University, Canada

nature.com/articles/s41591-020-1015-0
Case-by-case evaluation

• There are thousands of research projects worldwide associated with Covid-19, many involving animals

• During project evaluation, the focus should not simply be on the importance of the overall problem, e.g. "tens of thousands of people are dying due to Covid-19"

• but on "what will this specific project and this specific use of animals, contribute in terms of value towards the project's specific goal of X" ..... and do these potential ‘benefits’ justify the expected 'harms' to the animals involved in this project
Testing the ethical framework

• Higher likely harms accepted for higher potential benefits

• EU Directive ‘safeguard’ clauses, e.g. could allow great ape use in relation to outbreak of life-threatening or debilitating condition in humans

• The high importance of the research should not override the likelihood of benefit or animal suffering
Testing the ethical framework

• Professor Andrew Pollard of the Oxford Research Group
  "there is no justification for changing the ethical standards"
  'Newscast' podcast - 20 July 2020

• "We go through exactly the same process for these vaccine studies as we have done for anything I have worked on over the last 25 years. The only difference is because of the urgency... ethical committees are ready to review the information we provide them much sooner than would happen in normal life"
Raised awareness of animal use

COVID-19 vaccine: Moderna’s candidate immunized animals, enters FINAL testing phase with 30,000 human volunteers

Regeneron says antibody cocktail prevents and treats COVID-19 in animals

Canadian company urges human trials after COVID-19 vaccine in mice blocked virus

Positive aspects for animals

Photo: petandbirdclinic.com/
Raised awareness of animal use

• Public opinion polls have repeatedly shown that people have legitimate concerns about animal use and suffering in research and testing
• They are still concerned - new survey shows that many people feel ‘conflicted’ about animal use in coronavirus-related research
• “Because I can accept it, doesn’t mean that I like it”

ipsos.com/ipsos-mori/en-uk/public-attitudes-animal-research-2018
understandinganimalresearch.org.uk/files/3315/8687/3612/attitudes_to_animal_research_under_covid-19_final.pdf

Photo: RSPCA
Data sharing and collaboration

• Research outputs published and shared at ‘unprecedented rate’
• Reaffirmation of global statement by health bodies on data sharing in public health emergencies (in response to Zika, 2016)
• WHO R&D Blueprint and Global Research Database
• UK Academy of Medical Sciences COVID-19 Preclinical Drug Development Database
• US National Institute of Health Strategic Plan
• COVID-19 data portal

wellcome.ac.uk/press-release/statement-data-sharing-public-health-emergencies
acmedsci.ac.uk/policy/uk-policy/coronavirus
covid19dataportal.org/
Avoiding and replacing animal tests

• Global regulatory workshop on COVID-19 vaccine development convened by the International Coalition of Medicines Regulatory Authorities (ICMRA)
  • Critically analysed which pre-clinical tests can safely be avoided
• Parallel testing in humans
• Exciting new developments in predictive, clinically-relevant Non-Animal Technologies (NATs)
  • Human cell cultures, *in silico* methods
  • Stay tuned to this webinar!

[icmra.info/drupal/sites/default/files/2020-03/First%20regulatory%20COVID-19%20workshop%20meeting%20report_March%202020.pdf](icmra.info/drupal/sites/default/files/2020-03/First%20regulatory%20COVID-19%20workshop%20meeting%20report_March%202020.pdf)

Photo: wyss.harvard.edu
A shift in scientific culture?

What can we all do, within our different roles?

How can we keep the door open for the 3Rs?

To think about, for the discussion session at the end of this webinar ...
Promote the positives

• More funding for development & validation of advanced, predictive NATs
• Greater incentives to search for and use NATs
• Greater collaboration and data sharing, to reduce animal use and duplication
• Regulators regularly convening to identify which animal tests could be avoided
• Scientific impact measured in terms of bringing therapies and treatments to the clinic, instead of publications in ‘high-impact’ journals
Be mindful of the negatives

• ‘Scrambling’ to use animals as the default approach, rather than the last resort - especially where these may involve severe suffering
• Downplaying animal suffering or trivialising animal use
• Speeding up research so that it is no longer rigorous or high quality
• Not collaborating or sharing data
• Overplaying benefits and/or likelihood of achieving them, skewing the harm-benefit analysis
• Extending the arguments made for using lab animals during this unprecedented global emergency, to make a generic case for the use of animals in research and testing
AWBs and IACUCs

• Advising on the 3Rs
  • Are there incentives to search for and implement all 3Rs? Do staff know how to search effectively? Is training adequate? Do research teams collaborate with others to share data, approaches and 3Rs information? Do committee members have (or can they access) the necessary competencies? When work resumes, will there be contingency plans to avoid killing animals if there is another wave?

• Keeping staff informed of technical and scientific developments relating to the 3Rs
  • Are there adequate channels of information about these? Is this task, and those responsible for it, properly resourced?

• Following the development and outcome of projects
  • Are there further opportunities to implement the 3Rs? What were the harms to the animals; were they accurately predicted; how were they alleviated?

ec.europa.eu/environment/chemicals/lab_animals/pdf/endorsed_awb-nc.pdf
The local Culture of Care

• An establishment-wide commitment to improving animal welfare, scientific quality, care of the staff and transparency for all stakeholders, including the public

• More than caring for animals
  • How staff treat each other and communicate
  • How effectively 3Rs are implemented
  • Expectations for good quality science
  • Going beyond legal requirements

norecopa.no/coc
rspca.org.uk/webContent/staticImages/Downloads/PromotingACultureOfCare.pdf

Image: inhabitat.com
Wider ethical issues

- Animal and human health and welfare are intimately linked
- Many disease outbreaks associated with habitat destruction, eating wild animals and farming practices
- These are complex issues, with few easy solutions ...
- but unless radical changes are made to the ways humans use other animals and share the environment with them, the cycles of disease and suffering will continue for both humans and animals
Let’s meet at WC11 in 2021!

22-26 August 2021
MECC Maastricht

Questions?