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Workshop report

Synthesis of Evidence: Working Together on Systematic Reviews of Animal Studies

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On July 2, 2014 an inspiration day themed “Synthesis of evidence: working together on systematic reviews of animal studies” was held at the Netherlands Organisation for Scientific Research (NWO) in The Hague, The Netherlands. The day was jointly organized by the Netherlands Organisation for Health Research and Development (ZonMw), the University Medical Center Groningen (UMCG), the Dutch Cochrane Centre and SYRCLE (SYstematic Review Centre for Laboratory animal Experimentation) of Radboudumc, Nijmegen.

The aim of the day was to discuss relevant practical issues concerning the conduct of systematic reviews of animal studies and to share information on recent national political and legal developments. The 55 participants included researchers, legislators, NGOs, policymakers, information specialists, laboratory animal science course coordinators, etc. The day was chaired by Dr **Wim de Leeuw**, Head of the Animal Welfare Body at Utrecht University. Participants were informed about the current state of implementation of systematic reviews of animal studies in the Netherlands and the role of the Dutch government and ZonMw.

The morning program consisted of four presentations and an interactive laptop session. The slides of the presentations (in Dutch) can be found at <http://www.syrcl.nl/>. The first speaker was Prof. **Rob Scholten** from the Dutch Cochrane Centre. He drew a parallel between clinical and preclinical animal studies and explained how systematic reviews can improve animal experimentation as well as their impact on healthcare, and what can be learned from the Cochrane Collaboration in this respect.

The second speaker was Dr **Angelique Nielen** from the Dutch Ministry of Economic Affairs, responsible for the Dutch Animal Experiments Act. She explained in detail what has happened in politics and what the Dutch government has done and will do to stimulate and facilitate the implementation of synthesis of evidence/systematic reviews of animal studies. In short: the Dutch House of Representatives has adopted two motions on this topic. The first, passed in 2012, declared that “systematic reviews should be the norm for animal experimentation.” The second,

passed in 2014, declared that “systematic reviews should be a compulsory part of the course on laboratory animal science for animal researchers.” The Dutch Government has decided to fund the implementation of systematic reviews of animal studies by supporting the development of tools and guidelines, a study into the acceptance of systematic reviews (Tabula Rasa report; see: <http://www.syrcl.nl/>) and the development of an online education package. Dr Nielen pointed out that the implementation of synthesis of evidence/systematic reviews of animal studies is a focus point for the Dutch Government and one of the issues for the National Committee (in Dutch: NCad = Nationaal Comité *advies dierproevenbeleid*; in conformity with EU2010/63; article 59).

Dr **Erica van Oort** (ZonMw) provided information on the policy, funding and activities of ZonMw in this area of health research. ZonMw stimulates the publication of negative data (solid unexpected results) by providing funding for researchers to publish such data (<http://www.zonmw.nl/MKMD>). ZonMw funds hands-on training for researchers to perform systematic reviews of animal studies. In addition ZonMw funds support for researchers during the process of performing systematic reviews.

Dr **Carlijn Hooijmans** (SYRCLE, Radboudumc) pointed out the need for and necessity of performing systematic reviews of animal studies. She gave an overview of the tools, guidelines, education, and training developed by SYRCLE and currently available (for details, see <http://www.syrcl.nl/>).

During a special laptop presentation session, scientists were able to present and discuss their own research on systematic reviews of animal studies with other participants in an interactive way. The presenters were: Gerben TerRiet (AMC, Amsterdam), Moira Bruintjes (Antonius hospital, Nieuwegein), Simon Yauw (Radboudumc, Nijmegen), Anje te Velde (AMC, Amsterdam), Geert van Hout (Radboudumc, Nijmegen), Marije Sloff (Radboudumc, Nijmegen) and Judith van Luijk (SYRCLE, Nijmegen). Details can be found on the SYRCLE website. **Marije Sloff** was awarded the prize for the best laptop presentation.



Three parallel sessions were scheduled for the afternoon.

Session 1: Do's and don'ts when setting up a systematic review of animal studies

This session was specifically organized for those who are relatively new to the field of systematic reviews of animal studies and those planning to perform a systematic review of animal studies. This session was led by Dr **Rob de Vries** and PhD student **Judith van Luijk** from SYRCLE. Its starting-point was to explore the issues that can influence the translation of animal data to humans, such as biological differences, low methodological quality, low reporting quality, publication bias and differences in design. Systematic reviews result in a reliable overview of animal data which makes it possible to assess translation of animal data to humans.

Session 2: Methodological challenges when performing a systematic review of animal studies

This session was specifically for researchers who have experience in performing a systematic review of animal studies. It was led by Dr **Carlijn Hooijmans** (SYRCLE, Radboudumc). It raised practical and methodological challenges, such as: Can we do things more efficiently? What can we learn from each other? Which programs can be used to ease the process of performing a systematic review? What should you not do? How can I validate my choice of subgroups in a meta-analysis? Sharing experiences was considered very useful, constructive and stimulating.

Session 3: Systematic reviews of animal studies in laboratory animal science course for researchers

This session was organized for those interested in the national Course on Laboratory Animal Science and included course coordinators, information specialists, NGOs and others. Dr **Marlies Leenaars** from SYRCLE chaired this session. The Netherlands have planned to have training on the synthesis of evidence (such as systematic reviews and meta-analyses) as a compulsory topic in the laboratory animal science course. This session was a first orientation on what should be its course load and objectives. It was concluded that a minimum objective was to have an introduction into the need for and necessity of sys-

tematic reviews of animal studies. A practical on “How to find all literature on a specific topic” could be part of the laboratory animal science course. Two hours of training was seen as realistic, considering the already dense schedule. A 45 min – 1 hour introduction combined with an interactive lecture/assignment was suggested. Participants also discussed the necessity of training on systematic reviews of animal studies being available as continuing professional development (CPD) for animal researchers.

Plenary closing session

Dr **Wim de Leeuw** chaired the plenary closing session. It was suggested that a systematic review should be a prerequisite for obtaining funding. Another suggestion was that it should be the starting-point of a PhD study, resulting in a publication in a peer reviewed journal and the first chapter of the thesis. The difference between “synthesis of evidence” and “systematic review” was discussed. In the adopted motion of the House of Representatives, the term “systematic review” is used, while in the new Dutch Act (Dierproevenbesluit 2014), it says: “Knowledge of methods of synthesis of evidence (i.e., systematic reviews and meta-analyses) is a compulsory topic.” It was concluded that synthesis of evidence is a broader term and that systematic reviews are a methodological approach to synthesizing evidence. How can we reduce the amount of time and work to be invested? A transparent and comprehensive search to find and select all relevant articles on a specific topic was seen as a good first step. Teamwork was also suggested. The question was also raised whether it was difficult to get a systematic review published. Usually, it is not too hard because systematic reviews can be shown to be thorough. Practical experience has demonstrated that systematic reviews of animal studies can be published in good journals.

The day was awarded a mean score of 8.0 on a ten-point scale, based on 21 completed evaluation sheets. Some of the participants' comments were: “learned a lot, it was inspiring” and “interesting to see government involvement”. Dr Wim de Leeuw concluded, “The direct benefit of this day was that we exchanged ideas and thoughts and concluded that the implementation of systematic review methodology in educational programs contributes to one or more of the 3Rs.”