Improving the Translation from Science to Environmental Policy Decisions

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Veterinary use of diclofenac, a drug highly toxic to vultures, was recently approved in Spain, where most of Europe's vultures live. This highlights the inadequacy of the current system of risk evaluation for veterinary pharmaceuticals. Widespread veterinary use of diclofenac in the Indian subcontinent led to the near extinction of three vulture species. Evidence first published in 2004² resulted in prompt government action to ban this use of the drug in 2006 in India, Pakistan and Nepal. Despite this experience, the authorities in Spain, which holds over 95% of Europe's vultures, approved the use of diclofenac on animal species likely to be scavenged by vultures (cattle, pigs and horses) in March 2013.

A search in the Web of Science using "diclofenac" and "vulture" as keywords found 128 SCI papers published between 2004 and 2013. So the problem caused by this drug was wellknown and widely evaluated in the peer-reviewed scientific literature. Its approval in Spain did not take this information fully into account, which illustrates a baffling disconnection between scientific evidence and decision making.

Only after widespread expression of concern did the European Commission request an opinion from the European Medicines Agency's Committee for Medicinal Products for Veterinary Use. After reviewing the evidence, the committee proposed on 12 December 2014 that veterinary use of diclofenac in Europe should be regulated and that efforts should focus on determining the most suitable and effective ways to ensure that drug-contaminated carcasses do not end up in the food chain of avian scavengers. Despite these encouraging developments, robust mechanisms are still lacking to ensure that information from conservation science is taken into account in policy decisions that impact on biodiversity and the environment. These authors propose a new knowledge exchange policy to improve the dialogue between scientists from different disciplines with policymakers and practitioners. Key elements of this policy are to (a) frame research and policy jointly; (b) promote inter- and transdisciplinary research and "multidomain" working groups; (c) and put in place structures and incentive schemes that support interactive dialogue in the long term.