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Editorial

Call for Papers: One Health and Vector-Borne Parasitic Diseases

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The importance of the One Health concept in drug discovery goes beyond the recognition of the deep interdependence among human, animal, and environmental health. These three domains should be considered early in the process, highlighting the need for a multidisciplinary approach to develop drugs that not only are safe and effective but also present a low-impact ecotoxicology profile. Vector-borne parasitic diseases (VBPDs) are a significant component of the One Health framework, as they affect both human and animal populations and they both are influenced by and influence the environment.

Three-fourths of current human infections are thought to be included among the vector-borne diseases (VBDs). In fact, over 700,000 human deaths every year are caused by diseases such as malaria, schistosomiasis, African trypanosomiasis, leishmaniasis, Chagas diseases, babesia, and others.[1,2] Similar problems, although much underestimated, are thought to afflict animal health. Often, the same or similar drugs are used for human and veterinary therapies. The extensive use of these drugs results in environmental contamination with either the unmodified drug or its metabolites. Environmental contamination with drug-derived chemicals is chronically underestimated, with a systemic lack of ecotoxicological controls. This contamination not only impacts unpredictably the ecosystems but also can lead to the development of drug resistance.[3] The massive use of inadequate drugs with inadequate ecotoxicological profiles is worsened by the fact that often there are no other alternatives due to the limited efforts currently devoted to drug discovery for these diseases. The main reasons are the scarce economic interest to develop new drugs for problems that afflict mostly low-income countries and the difficulty to identify specific targets. Ideally, these targets not only should be associated with high activity and low toxicity but also should not be susceptible to rapid onset of drug resistance.[4] Only through adequate ecotoxicological controls and dedicated drug development will we be able to deliver on the promise of the One Health concept leading to effective drug development, rational drug use, and mindful drug-waste product management that is in harmony with the environment.

These challenges can be addressed by adopting preventive plan and control strategies with the collaborative contribution of professionals from human and veterinary fields, including drug discovery and medicine, public health, environmental science, ecotoxicology, entomology, and other relevant fields. For these reasons, initiatives such as OneHealth*drugs* COST Action (www.onehealthdrugs.com) represent an important opportunity to coordinate the discovery of drugs for VBDs with the principles of optimal profile for either human or animal use, with innovative delivery technologies. Ultimately, we aim to contribute to the establishment of a solid foundation to build and strengthen a platform—made up of researchers with expertise from several fields—aiming at the integration and generation of synergies among drug research and development with a specific interest in ecotoxicological aspects of antiparasitic drugs.

At *ACS Infectious Diseases*, we invite submissions of Articles, Letters, Reviews, Viewpoints, and Perspectives from academic groups, not-for-profit organizations, and industry researchers in the fields of human and veterinary drug discovery, parasitology, pharmacology, omics, and health science. Recognizing the updated approach of research that can be included in the theme "One Health and Vector Borne Parasitic Diseases", we are proceeding with a wide scope of interest. The scope includes but is not limited to R&D related to VPBDs involving synthesis and/or biological activity of antimicrobial agents, pharmacological studies, development of drug delivery/targeting systems, development of biodegradable nanotechnology approaches, and assessment/reduction/prevention of the environmental impact of such drugs.

This Virtual Special Issue aims to address the principle that drugs against human and animal VBDs can be subjected to the principles of the optimal activity and safety profiles, using innovative delivery technologies with minimum environmental risks. It is intended to pave the way for a new vision for drugs for human and animal infectious diseases in a One Health interconnected world.

By submitting your work to this Virtual Special Issue, you will take advantage of an excellent opportunity to showcase your science not only at the forefront of several areas in the infectious diseases community but also to policymakers, funders, and the general public. We hope to highlight what we, a community of VBPD researchers with interest in infectious diseases, strive to achieve these highly desirable objectives, and we invite you to participate in this effort. Manuscripts must be submitted online via ACS Paragon Plus. Please select "One Health and Vector Borne Parasitic Diseases" from the Special Issue dropdown box in our submission system. Submissions will be peer-reviewed and, if accepted, will be published in a regular issue of *ACS Infections*

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Diseases. Once the Virtual Special Issue is complete, all articles will be publicized as a virtual collection, which will provide additional exposure for the work. The deadline for manuscript submission is December 31, 2023. Please consult the Author Guidelines for more information about the journal, manuscript types, and instructions for manuscript preparation. Pre-submission inquiries may be sent to eic@id.acs.org.

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Notes

Views expressed in this editorial are those of the authors and not necessarily the views of the ACS.

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