The Role of Vaccination Within the "One Health" Agenda

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Abstract

The One Health agenda has been defined as "the integration effort of multiple disciplines working locally, nationally and globally to attaining optimal health for people, animals and the environment". It recognises that there is a significant connection between the health of animals and that of humans, and the impact that they both have on the environment.

Vaccines have a key role to play within this agenda since they can control disease transmission between animals and human, and have a significant impact on their shared environments. As a prophylactic measure they can prevent the emergence of disease and as an intervention they can restrict its spread. Indeed, several vaccines are targeted towards domesticated animals and livestock in order to prevent the disease in both animals and humans. In addition, collaboration between animal and human health vaccine researchers offers the potential to advance the understanding of mutually relevant diseases and expand the translational approach to medicine. It is also interesting to observe that many new vaccine technologies often find their first application within veterinary medicine.

The world's population has already exceeded 7.7 billion people in 2019 and it continues to grow. As a result of this geographical expansion the contact between human and animal habitats increases. This introduces a greater risk of exposure to new zoonotic disease causing pathogens. Advancing technologies and science-based evidence are improving our awareness, knowledge and understanding of the interdependency of the health of humans and animals, and their environments. This presentation will discuss how there is a clear association between the One Heath agenda, vaccination and the development of improved vaccines.

Selected Publications

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Stedman, A., Wright, D., Wichgers, P.J., Clark, M., Hill, A.V.S., Gilbert, S.C., Francis, M.J., van Keulen, L., Kortekaas, J., Charleston, B and Warimwe, G.M. Safety and efficacy of ChAdOx1 RVF Vaccine against Rift Valley fever in pregnant sheep and goats. Npj Vaccines, 2019, 44, 1-8.



Biography

During his long career within the pharmaceutical industry Dr Michael James Francis has undertaken global responsibility for a broad range of veterinary and human vaccine projects against viral, bacterial and parasitic diseases. This has led to the development of successful commercial vaccines for all major veterinary species, utilising both conventional and novel technologies. He is currently the Managing Director of a specialist vaccine development consultancy, BioVacc Consulting Ltd. Michael was elected as a Fellow of the Royal Society of Biology and awarded an Honorary Associateship of the Royal College of Veterinary Surgeons, in recognition of his contribution to the field of vaccine R&D and animal wellbeing. In addition, he is currently a Board Member of the International Veterinary Vaccinology Network, a Trustee for the Jenner Vaccine Foundation, an Independent Member of the UK Science Partnership for Animal and Plant Health, a Member of the UK Vaccine Network and a Member of the ZELS Independent Programme Advisory Group.

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