One health and food safety

Many, if not most, of all important zoonoses relate in some way to animals in the food production chain. Therefore food becomes an important vehicle for many zoonotic pathogens. One of the major issues in food safety over the latest decades has been the lack of cross-sectoral collaboration across the food production chain. Major food safety events have been significantly affected by the lack of collaboration between the animal health, the food control, and the human health sector. One Health formulates clearly both the need for, and the benefit of cross-sectoral collaboration. Here we will focus on the human health risk related to zoonotic microorganisms present both in food animals and food derived from these animals, and typically transmitted to humans through food. Some diseases have global epidemic- or pandemic-potential, resulting in dramatic action from international organizations and national agricultural- and health authorities in most countries, for instance as was the case with avian influenza. Other diseases relate to the industrialized food production chain and have been-in some settings-dealt with efficiently through farm-to-fork preventive action in the animal sector, e.g. Salmonella. Finally, an important group of zoonotic diseases are 'neglected diseases' in poor settings, while they have been basically eradicated in affluent economies through vaccination and culling policies in the animal sector, e.g. Brucella. Here we will discuss these three different foodborne disease categories, paying extra attention to the important problem of antimicrobial resistance (AMR). In addition, we present some of the One Health inspired solutions that may help reduce the threat of several of the foodborne diseases discussed.