

# MODELS FOR CROSS SPECIES TRANSMISSION OF INFECTIOUS DISEASES

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The potential impact on public health of infections that are able to cross the species barrier from animals to humans (zoonoses) has been highlighted by two recent infections - Bovine Spongiform Encephalopathy (BSE) and avian influenza. For emerging infections such as these, policy makers often require estimates of the potential and scale of cross-species transmission even when many aspects of the epidemiology are uncertain. In such settings dynamical models, which aim to capture key biological properties, have proved useful both to make predictions and to quantify the remaining uncertainty. In this talk I will discuss some recently developed methods, including the further development and use of back-calculation models and estimates of cluster outbreak statistics. The methods will be illustrated with data from the BSE/CJD epidemics in the UK and the emergence of avian influenza in the Far East.