

## Control of Hydatid Disease in Rural Argentina

J. Mencher<sup>1</sup>, V. Varela-Diaz<sup>2</sup>, and A.E. Sollod<sup>1</sup>

<sup>1</sup>Tufts University School of Veterinary Medicine, 200 Westboro Rd. North Grafton, MA 01536 U.S.A., <sup>2</sup>Centro Panamericano de Zoonosis. Buenos Aires, Argentina

Human hydatid disease, caused by infection with the larval stage of the cestode Echinococcus granulosus, is endemic to rural southern Argentina. The combination of social, environmental, cultural, and economic characteristics of this region and its people is ideal for the propagation and maintenance of the disease; however, incidence of infection in both animals and man has been dramatically reduced by a control program designed to deal specifically with these factors.

Sheep are the principal source of income for southern Argentines. Dogs are used as herding animals, resulting in direct contact between sheep and dog and facilitating transmission of infection to the sheep. Transmission to man is also facilitated by this working relationship, coupled with poverty (for example, dog and owner often sleep together for warmth in winter) and poor personal hygiene. Reinfection of the dog is largely the result of ignorance, as most dogs acquire infection by being fed raw infected viscera by their owners.

Early detection of disease in humans is accomplished through ELISA, immunoassay, and imaging. Surveillance in animal populations involves inspection of sheep viscera in slaughterhouses and periodic purging and inspection of dog feces for the presence of adult worms. Prevention of transmission involves controlling access of dogs to viscera, worming of the canine population, and public education. The lack of financial resources and personnel, the vast distances between villages, and environmental conditions of the region make effective control difficult. Despite this, the prevalence of infection has dropped by over 40% in the dog population and 80% in the human population since the program began. At present, a scheme is being designed to identify high risk households in order to more effectively concentrate the limited resources.