Summary of the Fourth Meeting of the ITFDE(II)
April 16, 2003

mortality, have great economic impact and disrupt routine public health services as countries scramble to contain the outbreaks. Humans are the only reservoir of this pathogen.

Up to 10% of populations may be carriers, of whom only a small fraction develops disease. Exposure to tobacco smoke is a risk factor. In the United States, the disease is more common in people in lower socio-economic groups.

4. The costs of epidemics and the microepidemiology of epidemics of this disease need more study, especially in Africa.

Cysticercosis

The presentations on *Taenia solium* cysticercosis were presented by Dr. Peter Schantz of the CDC and Dr. A. Lee Willingham of the WHO/FAO Collaborating Center for Parasitic Zoonoses in Denmark. Dr. Hector H. Garcia of the Cysticercosis Unit in Lima, Peru, was an invited observer, and also participated in the discussion.

This zoonotic disease is endemic in many pig raising/pork consuming areas of the world, both rural and urban, and it is closely associated with poverty. Humans who eat inadequately cooked pork may become carriers of the adult tapeworm and excrete infective eggs and proglottids of the parasite in their feces. People who ingest parasite eggs from food, water or fingers contaminated with human feces may develop potentially fatal cysticercosis caused by larval stage cysts that may infect their brain or other tissues. Pigs that ingest the feces of people who harbor the adult *T. solium* parasites then develop larval cysts (cysticerci) in the pigs' tissues, and those larvae will develop into adult worms in people who eat inadequately cooked flesh of such pigs. Passage through both humans and pigs is required to sustain the parasite's life cycle. Dogs may serve as less important intermediate hosts in parts of Africa and Asia, but there is no reservoir of this infection in wildlife. An estimated 75 million persons live in endemic areas of Latin America alone. Cysticercosis is considered the commonest preventable cause of epilepsy in the developing world. The presence of a human pork tapeworm carrier in a household is the main risk factor for human cysticercosis; for this reason domestic workers from endemic areas may import the disease into even non-pork consuming households in otherwise non-endemic areas. The lifespan of the adult tapeworm can be more than 25 years. Increased domestic pig-raising may be partly responsible for apparent increases in the disease in East and Southern Africa, as well as improved diagnostic tests and survey methods globally. Whilst modern industrial pig-raising is not associated with transmission of *T. solium*, but domestic pig-raising, which in less developed countries is where a pig rearing subsistence economy allows pigs access to human excreta, is usually a less expensive, more practical and important source of income in areas where the disease occurs. The World Health Organization is conducting an on-going assessment of

lesions in the brain, diagnostic antibody and antigen tests for larval stages of the parasite, diagnostic antibody and coproantigen assays for intestinal adult stages of the parasite, and effective medical treatment suitable for single-dose, mass usage in humans (praziquantel, albendazole) and in pigs (oxfendazole). A vaccine to prevent cysticerci in pigs is being developed. The new diagnostic measures are not yet widely available, however, and so far only Peru has used all the new tests to comprehensively assess local prevalence of *T. solium* in humans and swine. There is also increasing recognition of the extent and impact of the disease.

Successful pilot demonstrations of control measures have been or are being conducted in Mexico, Ecuador and Peru (the latter with support recently provided by the Bill and