Serological screening of dogs and killing sero-positive animals is debated as an effective control strategy. Treating sero-positive dogs is ineffective because dogs can regain infectivity weeks after treatment despite being clinically cured. The latest control approach is the use of deltamethrine-treated collars.36 The WHO recommends sustained house-to-house spraying of residual insecticide as a powerful method to control the vector population.37 In the 1950s India began using DDT to successfully reduce the sandfly population in the country. VL re-emerged, however, when the spraying campaigns were discontinued and resistance developed in sandflies in some regions. Spraying bed nets, bed sheets, windows, and window curtains can also prevent sandflies from entering homes and biting victims.38 From 1999-2001, Medecins sans tericin B is highly effective, has almost no side-effects and is now the preferred first-line treatment for visceral disease; however, the drug is very costly and thus impractical for wide use in developing countries.32 Miltefosine and paromomycin are other drugs that are distributed today. Miltefosine is the first oral drug so it is easy to administer, but it has several side effects including vomiting, diarrhea, and nephrotoxicity. Miltefosine is also very expensive. Paromomycin is a promising treatment due to minimal toxicity and low cost subsidized by a partnership between GlandPharma, a pharmaceutical company, and One World Health, a non-profit organization.33

Coupling drug treatments has provided protection from parasitic resistance as well as reduction in treatment duration and overall toxicity.34 Current vaccine research has led to a promising “chimeric” vaccine containing three recombinant leishmanial antigens, but it is still in early stages of testing for safety and efficacy. Some suboptimal vaccines have been produced that may have uses in a therapeutic setting of disease treatment.35 It is hoped that an effective vaccine will be developed in the next couple decades.

**Prevention and Control Measures**

Major prevention and control measures include reservoir control, vector control, and early diagnosis and treatment. Dogs are the main reservoir of *L. infantum* in zoonotic VL.