or prematurely in the spleen, is also common and leads to bleeding. Patients often experience fever with intermittent chills, fatigue, general weakness, and anemia.26

The clinical presentation can differ among endemic areas due to a combination of genetic and environmental components that are not clear yet. For example, enlarged lymph nodes are frequently seen in Sudan but are rare in other endemic areas. Another problem for identifying the disease is that symptoms can easily be mistaken for other febrile illnesses such as malaria and enteric fever.27 Furthermore, even if the infection is transmitted, this does not always lead to clinical illness. Understanding the environmental and genetic risk factors that determine why two people with the same exposure to infection differ in susceptibility to illness could provide important leads for improved therapies.28

Symptoms and signs of bacterial coinfections such as pneumonia, diarrhea or tuberculosis can make it difficult to initially diagnose VL in a patient. The spread of the HIV infection in South America, Asia, and Africa has expanded to rural areas leading to HIV-VL coinfection. In Europe, access to antiretroviral therapy since the 1990s has reduced the number of cases of VL associated with HIV. Alternatively, regions without HIV treatment are seeing a rise in HIV-VL coinfection.29

Diagnostic Tests
Since it is difficult to assess patients by their physical symptoms, physicians and health workers must use more reliable laboratory tests to diagnose the patient. In order to aid control programs, the test should be able to distinguish acute disease from asymptomatic infection as well as active infection from cured infection. Both rK39 immunochromatographic strip test (ICT) and Direct Agglutination Test (DAT) are commonly used tests that are unable to make this distinction and show a positive result long after a patient has been cured. Alternatively, molecular diagnostic tools like PCR and real-time PCR are more sensitive and specific but are difficult and costly to perform. Other methods, such as a urine-based latex agglutination test must be improved for sensitivity. A simple, rapid, non-invasive, accurate and cost-effective marker of active VL is necessary to improve diagnosis of VL in the field.30

Current Treatments
High cost, toxicity, long duration of treatment regime, and slow progression of research and development continue to impede the way to effective treatment of patients infected with visceral leishmaniasis. For more than 70 years, the first-line treatment regime in most countries has been a lengthy course of injectable pentavalent antimonials. These drugs are potentially toxic, painful, and have become ineffective due to the development of drug resistance in parts of India and Nepal.31 Amphotericin B or pentamidine is a more toxic second-line treatment that has been used in case a patient relapses. Newly developed, liposomal amphi-