GLOBAL HEALTH TECHNNOLOGIES AND INNOVATION TO ADDRESS NEGLECTED TROPICAL DISEASES

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The neglected tropical diseases (NTDs) are the most common infections of the poorest people in the world and who live on less than US$2 per day. They include ancient parasitic scourges such as hookworm and other soil-transmitted helminth infections, Chagas disease, amoebiasis, schistosomiasis, and leishmaniasis. Together, the NTDs produce a burden of disease that in certain regions even exceeds HIV/AIDS, while simultaneously trapping "bottom billion" in poverty through their deleterious effects on child physical and intellectual development, pregnancy outcome, and worker productivity.

The high prevalence and incidence of the major parasitic NTDs afford an opportunity for joint cooperation and alliances to address these conditions and accelerate the development of novel and complementary global health technologies, such as recombinant protein based vaccines, to combat them. One of the major hurdles in the critical path for the development and testing of novel and translational discoveries is overcoming the "valleys of death", or product development gaps for taking a bench discovery to the point where it shows a clear path to the clinic and later into licensure and delivery. A perspective of the sustainable business model, applied by Texas Children's Hospital Center for Vaccine Development, a Product Development Partnership will be presented. Additionally, in order to overcome several technical limits the current recombinant protein technology have, we also spare no effort on developing our innovative mRNA vaccine platform with new imaging techniques. Our effort to combat Chagas diseases using these technologies will also be presented.