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**Title: Nanomedicine for imaging, diagnosis, drug delivery (e.g., via nanocarriers) and therapeutics that are utilized in the treatment and prevention of diseases that include poverty related diseases (PRDs) that plague many populations mainly in rural Africa**

Nanotechnology is a multidisciplinary field that encompasses the design, manipulation, characterization, production and application of structures, devices and systems at the nanometer scale range (~1-500 nm), which present unique and/or superior physicochemical properties. This diminutive scale represents the domain of atoms, molecules and macromolecules. Nanomedicine is the application of nanotechnology to the medical sciences for imaging, diagnosis, drug delivery (e.g., via nanocarriers) and therapeutics that are utilized in the treatment and prevention of diseases that include poverty related diseases (PRDs) that plague many populations mainly in rural Africa..

Nanomedicine has rapidly gained ground over the past several years as may be observed from the increase in the number of nanopharmaceutical patents filed (over 1000 by the year 2008). Nanomedicine based drug delivery systems offer an enabling tool for the expansion of current drug markets including herbal medicine as they might facilitate the reformulation of classical drugs and failed leads or herbal medicine, resulting in improved half-life, precisely controlled release spanning short or long durations, and highly specific site-targeted delivery of therapeutic compounds. This technology has successfully revolutionized therapies for diseases like cancer with a number of nanomedicine products for cancer, such as Doxil® (liposome) and Abraxane® (albumin-bound nanoparticles), already on the market;.

A more recent development of phytosome delivery system in herbal medicine which is superior to liposome due to its improved absorption through the biological membrane and stability is changing the landscape of herbal medicine as we know it .

In summary these new novel approaches increases the bioavailability of the drug/herbal medicine in the system, therefore enabling reduction of high dose and dose frequency, treatment time and less toxicity.