2021 is the HIV/AIDS pandemics' 40th anniversary. It has taken hundreds of clinical trials of multiple agents and combinations to achieve effective treatment—the first triple-drug anti-retroviral therapy (ART) that worked. Some commentators called it the “Lazarus effect” as people rose from their deathbeds and tamed HIV. Now the HIV latent reservoir represents the major challenge to cure development. Residing in resting CD4+ T cells and myeloid cells at multiple locations in the body, including sanctuary sites such as the brain, the latent reservoir is not eliminated by ART and has the ability to reactivate virus replication to pre-therapy levels when ART is ceased. There is a need to develop new strategies to eradicate the viral reservoir in infected individuals. This presentation will describe progress, preliminary results, and lessons learned thus far on HIV cure and prevention strategies. With the emergence of third deadly human coronavirus SARS-CoV-2, recently identified in China in 2019, this coronavirus has emerged as the latest global pandemic with more than 240 million cases and 4.89 million deaths have been confirmed, making it one of the deadliest pandemics in history. The spectrum of medical therapies to treat COVID-19 is growing and evolving rapidly and in this presentation I will diverge and present two COVID-19 studies we are undertaking based on lessons learned from the HIV pandemic, to inform on COVID-19 pathogenesis and treatment and tame this disease.