HIV persists in patients undergoing highly effective antiviral therapy. Virus persists in long-lived infected CD4 T-memory cells. Current research on HIV control and eradication in-host points to the reactivation of the infected memory cell pool when the immune system is primed (via immune system stimulants) to neutralize the virus and kill active infected cells. In this talk, I will discuss our modelling studies of this process, and I will highlight biological outcomes that are supported by our analysis.