The Veterans Aging Cohort Study (VACS) is the largest HIV cohort in the North America (40,594). It includes a nested, consented 8 site sample (VACS 8) of 3,660 HIV infected (HIV+) veterans demographically matched to 3652 uninfected veterans (HIV-) which has longitudinal in-depth data spanning nearly 10 years on alcohol, substance use, and health and behavioral outcomes. Of the HIV+ subjects in VACS 8, 63% drink alcohol and 32% have unhealthy alcohol use. Because VACS includes uninfected comparators, we are able to characterize the role of HIV infection in alcohol associated outcomes. VACS includes large well characterized samples of understudied, but important subgroups: middle aged and older individuals, people of color, Black men who have sex with men, those with HCV infection (HCV+). We propose to enroll more women and those new to care. We have conducted observational research, and limited operations modeling and intervention studies within VACS focused on the role of alcohol in determining modifiable outcomes among HIV+/-. We have a national network of investigators and a highly effective Coordinating Center at the West Haven VA Medical Center. Our group has produced >100 widely cited, publications. We are proud of the education and career development support we have offered, but VACS funding for alcohol research ends September 2011. We propose to transform VACS into the Consortium to improve OutcoMes in hiv/Aids, Alcohol, Aging, and multi-Substance use (COMpAAAS) by 1) expanding our work in intervention and operations modeling while maintaining excellence in observational data analyses, 2) Converting our clinic based observational study into an Interactive Web Based Laboratory and providing administrative and methodological support to our network of investigators, and 3) Tapping our network of collaborators in North America and Europe to validate and extend our findings. Our consortium mission is to incrementally build and disseminate the evidence needed to optimize health care for HIV+ harmed by alcohol, multisubstance use, HCV, and depression through strategically coordinated, integrated, and externally validated observation, operations modeling, and intervention studies.