This paper examines patterns in HIV screening in the southern Caucasus (1994-2006) to illustrate how epidemiologically knowledge is constructed within the constraints of local meanings and mythologies relating to disease. Using official testing data, legislation on testing, media reports and in depth interviews with National HIV/AIDS center staffs, IGO (International Governmental Organization) officials and epidemiologists in Armenia, Azerbaijan and Georgia, I analyze the cultural and contextual factors influencing testing coverage, sentinel studies and estimation. Social beliefs regarding HIV/AIDS influence information reception, risk perception, voluntary testing, mandatory testing and sentinel testing approaches. The wide variations in estimated HIV prevalence in the region, mandatory testing structure and lack of consensus regarding the number of individuals engaged in risk-related behavior continue to limit the generation of precise estimations through standard epidemiological techniques and estimation procedures, making the shift to evidence based assessment in the region contentious. Estimation modifications reflecting local conditions are discussed.