OBJECTIVES: To cluster health status among adults with hemophilia by applying the hidden Markov model (HMM) to account for longitudinal changes in quality of life scores and to derive utility weights for each cluster. METHODS: Data were obtained from the Hemophilia Utilization Group Studies (HUGS), a prospective, multi-center observational study conducted from 2005 to 2013. Demographic and clinical characteristics were recorded, as well as quality of life (SF-36) scores at interview and 3-month follow-up visits for 2 years were collected. This analysis included data for 211 adults with hemophilia A or B with at least two observations. The HMM was adapted to generate the clusters and to fit the observation sequences, which consisted of SF-12 physical component scores (PCS) and mental component scores (MCS). Utility weights were derived using Brazier’s algorithm by mapping SF-12 scores to a SF-6D scale. RESULTS: Mean age was 34.6 ± 12.2 years and 59% had severe hemophilia. Data in four or fewer unique clusters provided the best fit for the observation sequences. For SF-12 PCS, Mean MCS were [54.2±2.5, 5.7±1.2, 50.4±6.5, 47.1±3.6, 52.4±7.7, 5.4±1.7] and MCS were [35.3±6.7, 36.8±8.6] from cluster 1 to cluster 4, respectively. Utility weights for each cluster were calculated (for cluster A: 0.75±0.14, 31.5% of sample, cluster B: 0.75±0.14, 32 (15%) in cluster 4. Being in a worse health cluster was significantly associated with unemployment, low household income, having severe hemophilia and female gender. CONCLUSIONS: Clusters can be used to identify groups with shared characteristics for targeted interventions. For example, having a utility score above 0.75 may be a threshold for where interventions are needed and how they should be prioritized.