OBJECTIVES: 1) To describe the health status of veterans nationally using the veterans SF-36 and the Veterans SF-12; 2) To examine the relationship between sociodemographics, comorbidities and administrative variables using the veterans SF-36; 3) To examine the differences among the VISNs in terms of measures of health status and health behaviors; 4) To develop validated imputation methodologies for addressing missing values in the scoring of the Veterans SF-36 and the Veterans SF-12 for future use in VA national surveys.

RESEARCH PLAN: The Veterans Health Administration (VHA) is implementing patient centered measures of health for monitoring quality and outcomes. As part of its performance measurement system to assess the health related quality of life (HRQoL) of veterans, the VHA has administered over 2.5 million Veterans SF-36 and the shorter Veterans SF-12 Health Surveys through national system wide surveys since 1996. The '1999 Large Health Survey of Veteran Enrollees,' the largest national survey ever conducted by VHA, was to provide baseline assessments of the veteran's health status and health behaviors for assessing the veteran's health care needs and for monitoring changes in health status. Methods: The survey was administered in 1999 using a modified Dillman approach with two waves. The core assessments that went to the entire sample included the Veterans SF-36 of which the Veterans SF-12 is included as a subset of the 36. The core also included selected items on patient health behaviors. In addition, there were five modules administered to 20% of the sample with more detail regarding health behaviors (Smoking/alcohol, diet/physical activity, satisfaction with the doctor-patient relationship, social support and utilization/insurance). The Veterans SF-36, modified from the MOS SF-36 with increased precision and reliability gave physical (PCS) and mental (MCS) summaries and is standardized to the U.S. population (mean of 50 and standard deviation of 10, higher scores denote better health).

FINDINGS: The 1999 Large Health Survey was administered in 1999 to 1.4 million veterans nationally in the VHA and 63.14% responded (n=887,775). The Veterans SF-36 gave Cronbach's Alpha statistics of 0.96 for PCS and 0.95 for MCS. Patients were on average 59.9 years of age, 72.9% were white and 95.2% were male. Overall PCS and MCS scores were 36.91 and 45.08, respectively. Among the VISNs, scores ranged from 40.63 to 33.87 (70% of 1 standard deviation difference) for PCS, and 47.51 to 42.34 for MCS (50% of 1 standard deviation difference). Variance components analysis indicated that variation in these scores was greater among the VISNs than among hospitals within VISNs (5.8 times more for PCS and 1.2 times more for MCS).

New scoring algorithms with weights based upon the large survey have been developed for the Veterans SF-36 and the Veterans SF-12. The new algorithms for the 36 items are based upon imputation approaches using a modified regression estimator that considers the bias in the computation and can allow for PCS and MCS scores with as few as 3 items that include single items from the physical, psychological and pain domains. The variability explained by the missing data models range over 82% and is up to 98% of the explained variability. This algorithm recovers two thirds more of the missing cases for PCS scores compared with other imputation methods that use item response theory and one third more cases for MCS scores. The algorithms include imputation formulas for missing values for the Veterans SF-12 for capturing 21.1% of the cases.

Conclusions: The Veterans SF-36 and SF-12 can be used in future national surveys with the validated imputation methodologies.

Impact Statement: Measures of health outcomes using the Veterans SF-36 and Veterans SF-12 are important for future resource allocation decisions and monitoring quality and health outcomes in VHA.