Background: An analysis of the Prostate Cancer Database Project identified an association between hepatitis C antibody testing and prostate cancer (Pca). Methods: The records of 864 African American (AA) and Hispanic men from January 1, 2000, thru July 31, 2011 with both prostate biopsy and hepatitis C antibody testing were examined. Chi-squared tests, t-tests of difference and logistic regression models were used to interpret data. A skill plot was used to integrate receiver operating curves and optimal cut-off for PSA in accordance with Bayesian theory. Results: Prostate cancer was detected in 70% of AA men and 52% of Hispanic men with hepatitis C antibody testing and 68% of AA and 70% of Hispanic men with hepatitis C antibody detected. African American men had significantly higher rates of Pca, hepatitis C antibody detected, HIV, and higher cancer stage at diagnosis when compared to Hispanic men. Prostate cancer was more likely to metastasize despite average histological Gleason scores of less than 7 and was not related to number of cancer containing cores at biopsy. PSA did not meet criteria required of standard screening tests to detect Pca in this patient population. Conclusions: In New York City, African American and Hispanic men referred for prostate biopsy with a history of hepatitis C antibody detection or indication for testing have the highest rates of Pca detected in any group identified to date, with high rates of metastatic disease at presentation independent of PSA, histological Gleason scores and number of cores containing cancer at diagnostic biopsy. The presence of serum hepatitis C antibody significantly increased odds of Pca.