OBJECTIVES: mCRPC is a terminal disease, with a median survival of approximately 2 months. Various studies demonstrated that enzalutamide is efficacious, prolonging overall survival and progression-free survival compared to placebo in patients with mCRPC previously treated with docetaxel-based chemotherapy. The purpose of this analysis is to assess from the Canadian perspective the cost-effectiveness of enzalutamide compared with abiraterone acetate (AA) + prednisone and intravenous (IV) cabazitaxel in mCRPC patients previously treated with docetaxel-based chemotherapy.

METHODS: A Markov model was developed to capture the time spent by patients with metastatic or locally advanced disease, including progression, progression free survival (PFS) and death. Results were reported as incremental costs per additional quality adjusted life-years (QALY) gained over a 10-year period. Transition probabilities were derived from patient-level data from AA/FHM and an indirect treatment comparison from available published literature. The base case analysis focused on direct medical costs from the perspective of the Canadian Ministry of Health (MoH), with the second analysis focusing on the societal perspective. Costs were obtained with breakthrough (BT) and benchmarking (B) methodology, discounted at 3.5% annually. All costs and effects were discounted at 1.5% for health and 4% for cost. The research included three groups: MBAT, Usual Breast Cancer Support (BCSG), or Untreated Control (UC).

RESULTS: The mean difference in costs (MBAT vs. BCSG) was CAD $42,955 and CAD $43,105 per additional QALY gained compared to AA and cabazitaxel, respectively. Results were similar from the societal perspective. Costs were robust over a wide range of one-way and probabilistic sensitivity analyses. In greater than 85% of iterations the incremental cost-effectiveness ratio ICER was below a willingness-to-pay threshold of CAD $100,000 per QALY for the MBAT compared to either AA or cabazitaxel.

CONCLUSIONS: Enzalutamide is a cost-effective treatment compared to AA and cabazitaxel in mCRPC patients previously treated with docetaxel-based chemotherapy.