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Sam M. Leo
University of Massachusetts Medical School

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Impact of Ivacaftor on Medication Use, Hospital and Outpatient Provider Visits and Associated Costs in a Medicaid Population

Sam M. Leo, Pharm.D., Maria M. Lowe, Pharm.D., Caroline J. Alper, M.D., Karen W. Lee, Pharm.D., BCPS, Kimberly J. Lenz, Pharm.D., Gloria Liou, Pharm.D., BCPS, Thomas C. Pomfret, Pharm.D., Mylissa K. Price, M.P.H., RPh, BCPS, Mark A. Tesell, Pharm.D., BCPS, Paul L. Jeffrey, Pharm.D.
University of Massachusetts Medical School - Clinical Pharmacy Services
333 South St.
Shrewsbury, MA 01545

Lead Investigator Contact Information: sam.leo@umassmed.edu, 774.455.3286

BACKGROUND: Ivacaftor is the first Food and Drug Administration-approved medication to treat an underlying genetic defect in patients with cystic fibrosis (CF). With an approximate annual cost of $300,000 per patient, ivacaftor may have a profound financial impact on health systems, even when utilized by a small population. Clinical data has demonstrated that treatment with ivacaftor may reduce pulmonary exacerbations (PE) and associated hospitalizations. As a result, patients receiving ivacaftor may need less outpatient care and fewer medications to treat CF complications. Evaluating the impact of ivacaftor therapy on medication utilization, PEs and hospital/outpatient visits can aid formulary decision makers in its effective management.

OBJECTIVES: The primary objective is to examine the effects of ivacaftor on patients’ overall medication regimen and associated costs within a Medicaid population. The secondary objective is to examine its effect on the rates of PEs and hospital/outpatient visits.

METHODS: Pharmacy and medical claims data for Medicaid members ≥ six years of age was collected for six months before and after the first reported pharmacy claim of ivacaftor. Data included: total number of unique claims, days supply, dose, and total cost for each medication, number of short-term antibiotic and/or steroid courses, outpatient provider visits, hospitalizations, ER visits and corresponding diagnosis codes. Diagnosis codes and short-term antibiotic and/or steroid courses were reviewed to determine if a PE may have occurred.

RESULTS: Ivacaftor treatment did not decrease the utilization of medications used to treat patients with CF and resulted in increased pharmacy expenditures for other medications. However, a 65% reduction in PEs as well as a reduction in hospitalizations/ER visits was observed in members receiving ivacaftor.

CONCLUSIONS: This study found that while ivacaftor treatment may not decrease total medication utilization or associated costs, it may decrease the number of PEs and associated hospitalizations in patients with CF.

* Employee of Clinical Pharmacy Services during research design and protocol development

† Current employee of the University of Massachusetts Medical School Office of Clinical Affairs