Adherence to Antiretrovirals in Medicaid-insured Patients Living With HIV: Predictors and Economic Consequences

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BACKGROUND

- The Centers for Disease Control and Prevention estimated that over 1.2 million people have had a positive HIV diagnosis and were living with HIV in the United States (US) in 2015.
- Optimal adherence to antiretroviral (ARV) therapy is critical to achieving durable virologic suppression and clinical outcomes.
- With the success of highly active antiretroviral (ARV) therapy in decreasing mortality and improving quality of life for HIV-infected individuals, adherence to ARV therapy is critical to achieving durable virologic suppression and clinical outcomes.

OBJECTIVES

- To assess the risk factors of poor adherence in a population of Medicaid-insured patients living with HIV (PLWH) and associated costs between patients with suboptimal versus optimal adherence.
- To compare healthcare resource utilizations (HRUs) and associated costs between patients with suboptimal versus optimal adherence.

METHODS

- Data Sources
- Study Design and Patient Selection
  - A retrospective cohort analysis was conducted.
  - The median follow-up time was 4.2 months.
  - The cohort comprised patients with prevalent PLWH aged ≥13 years with at least 12 months of enrollment in the study databases from January 1, 2012, to December 31, 2013, and were followed through the study end date on December 31, 2014.
- Interventions
  - ARV regimens used in the study were lopinavir/ritonavir, emtricitabine/tenofovir disoproxil fumarate, atazanavir/ritonavir, and abacavir/lamivudine.
  - Patients were categorized into 2 groups: those with no ARVs at baseline (N=3,477) and those with at least 1 ARV at baseline (N=4,717).
- Inclusion Criteria
  - N=1,556 (13.4%): 3,477 patients with prevalent PLWH with ≥1 diagnosis for HIV-1 (ICD-9 codes: 042 and V08) at any time prior to the index date during the index period from January 1, 2012, to December 31, 2013, and were followed through December 31, 2014 (index date).
- Exclusion Criteria
  - No PLWH with at least 12 months of enrollement in the study databases from January 1, 2012, to December 31, 2013, and were followed through the study end date on December 31, 2014.

RESULTS

- Demographic and Clinical Characteristics at Baseline
  - A total of 2,209 PLWH with at least 12 months of enrollement in the study databases from January 1, 2012, to December 31, 2013, and were followed through the study end date on December 31, 2014.
  - Patients with suboptimal adherence were significantly older (P<0.05) and were more likely to have a diagnosis of chronic pulmonary disease (15.2%) vs. patients with optimal adherence (11.0%)(Table 1).

- Risk Factors of Poor Adherence
  - Higher risk adherenceLower risk adherence
  - Age ≥50 years
  - Diabetes
  - Chronic pulmonary disease
  - Psychoses
  - ≥50 years
  - Diabetes
  - Chronic pulmonary disease
  - Psychoses
  - Age ≥50 years
  - Diabetes
  - Chronic pulmonary disease
  - Psychoses

- Comorbidity and Healthcare Costs Between Patients With Suboptimal (80%; PO=0.05%) Versus Optimal (20%; PO=0.05%) Adherence
  - Among the study population, 1,279 (21.1%) patients had poor adherence (PO=0.05%), 1,886 (34.5%) had suboptimal adherence (PO=0.05%), and 1,200 (21.6%) patients had optimal adherence (PO=0.05%) during the 6-month period (Table 3).

- Limitations
  - Claims databases may contain inaccuracies or omissions in diagnoses and other information.
  - The Medicaid data used in the study came from 6 states and may not be generalizable to the entire Medicaid population, other states, or non-Medicaid patients.
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- Conclusions
  - Higher risk adherence was associated with significantly higher healthcare costs (91.5% of total costs) vs. patients with suboptimal adherence (76.5% of total costs).

Figure 1. Identification of the study population.
- The figure shows the number of patients included in the analysis (N=2,683).

Figure 2. Risk factors of poor adherence (PO=0.05%).
- The figure illustrates the risk factors associated with poor adherence (PO=0.05%).

Figure 3. Comparison of monthly HIV and associated costs during the 6-month period between PLWH with poor adherence (PO=0.05%) vs. patients with suboptimal adherence (PO=0.05%).
- The figure compares the monthly HIV and associated costs during the 6-month period between PLWH with poor adherence (PO=0.05%) vs. patients with suboptimal adherence (PO=0.05%).

Table 1. Demographic and Clinical Characteristics at Baseline.
- The table presents the demographic and clinical characteristics at baseline for the study population (N=2,683).

Table 2. Comparison of monthly HIV and associated costs during the 6-month period between PLWH with poor adherence (PO=0.05%) vs. patients with suboptimal adherence (PO=0.05%).
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Table 4. Comparison of monthly HIV and associated costs during the 6-month period between PLWH with poor adherence (PO=0.05%) vs. patients with suboptimal adherence (PO=0.05%).
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