

Pharmacoeconomic Analysis Comparing Medical Costs for Prophylaxis of HIV and HBV Infection in Sexual Assault Patients

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INTRODUCTION

- Centers for Disease Control and Prevention (CDC) guidelines recommend postexposure prophylaxis (PEP) at the physician's discretion in sexually assaulted patients who carry substantial risk for HIV infection, regardless of an assailant's viral status¹
- In contrast, guidelines for Hepatitis B virus (HBV) recommend no therapeutic intervention for sexually assaulted patients where the perpetrator's HBsAg status is unknown²
- Failing to address this at-risk population may have clinical and cost implications

OBJECTIVE

- To compare the relative pharmacoeconomics for HBV and HIV PEP intervention

METHODS

- Cost analysis (medical care and prescription) across acute, chronic, and PEP cohorts for HBV and HIV (Table 1)
- Historical claims data were obtained for separate commercial, Medicare, and Medicaid health plans using Truven Health MarketScan®
- Patients were defined by respective 2016-2017 ICD-10 codes for different subgroups
- Costs included a 1-year timeframe from point of diagnosis

Table 1. Cost-comparison cohorts

Acute HBV	Acute HIV
Chronic HBV	Chronic HIV
HBV PEP	HIV PEP

RESULTS

- Mean and total costs for HBV and HIV population cohorts are presented (Table 2)
 - Costs ranged from \$4,900 to \$25,000 (compared to \$6,800 to \$23,100 for HIV PEP)
 - Medical costs alone accounted for \$3,715 to \$18,327 (vs \$4,414 to \$16,193 for HIV PEP)

Population	Patients	Total Cost	Average Cost
Acute HBV	11,005	\$203,336,391	\$18,477
Medical	11,005	\$169,555,570	\$15,407
Rx	8,230	\$33,780,820	\$4,105
Acute HIV	7,114	\$170,033,583	\$23,901
Medical	7,112	\$99,325,378	\$13,966
Rx	5,738	\$70,708,205	\$12,323
Chronic HBV	34,526	\$769,325,354	\$22,282
Medical	33,871	\$553,647,460	\$16,346
Rx	27,437	\$215,677,894	\$7,861
Chronic HIV	88,027	\$2,856,515,807	\$32,450
Medical	85,070	\$1,088,858,136	\$12,800
Rx	66,932	\$1,767,657,671	\$26,410
HBV PEP	7,071	\$62,940,194	\$8,901
Medical	7,071	\$45,980,887	\$6,503
Rx	5,319	\$16,959,307	\$3,188
HIV PEP	14,063	\$116,670,570	\$8,296
Medical	14,061	\$67,222,314	\$4,781
Rx	11,657	\$49,448,257	\$4,242
Total	161,806	\$4,178,821,898	\$25,826

Table 2. Total and mean costs by cohort populations

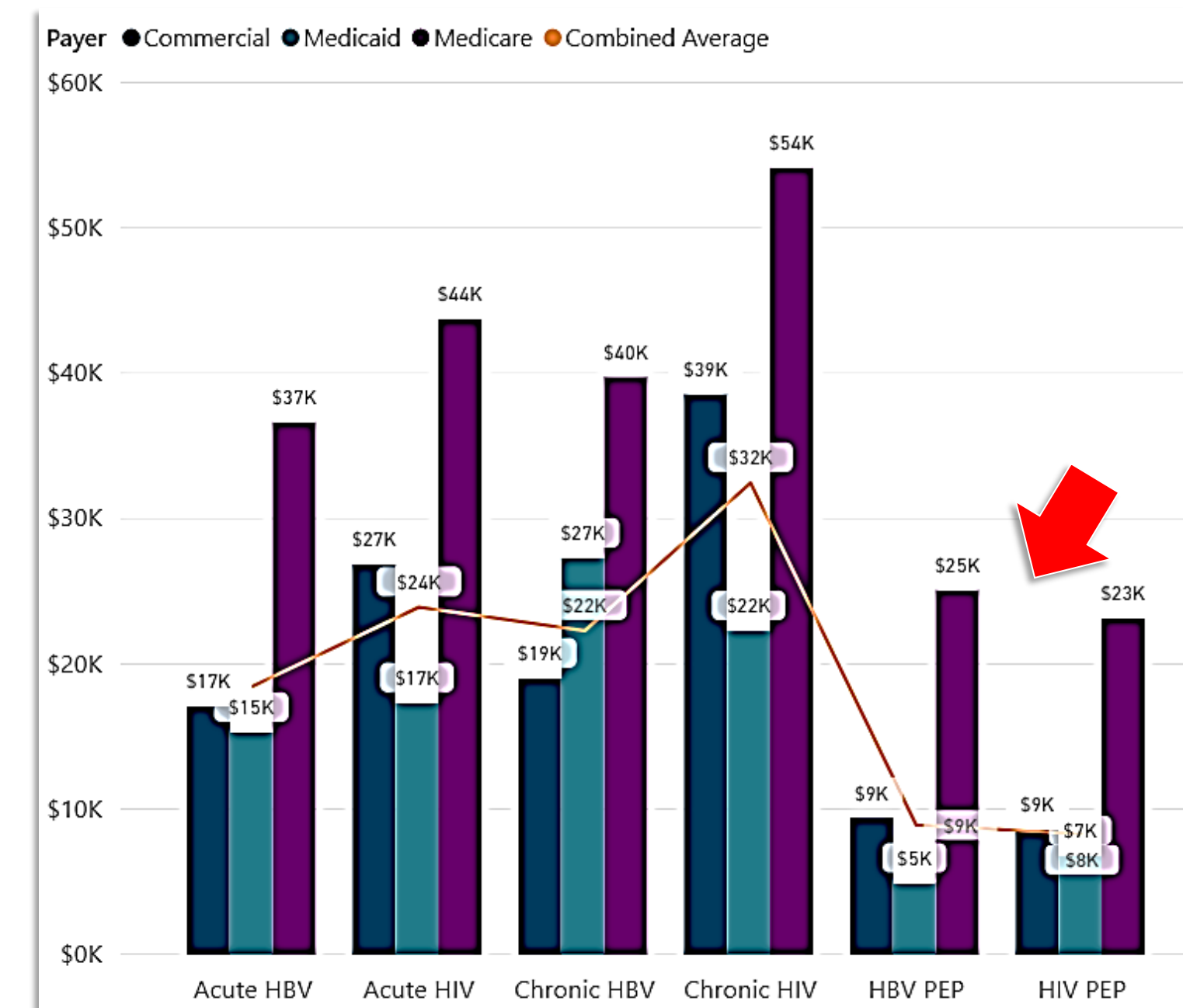


Table 3. Mean per-patient cost across payer source

- Total costs for HBV PEP intervention were approximately 7% higher compared with costs for HIV PEP (arrow, Table 3)
- Mean per-patient costs for HBV PEP costs were \$1,592, similar for HIV PEP
 - Costs were highest among members with commercial and Medicare plans

CONCLUSION

- Total cost of care is higher for patients with acute, chronic, and PEP HIV compared to similar cohort populations for patients PEP HBV

IMPLICATIONS

- Despite wide availability of HBV vaccines breakthroughs may occur 5 to 20 years post-administration, leaving even inoculated individuals susceptible to infection³
- PEP intervention with hepatitis B immune globulin (HBIG) has demonstrated efficacy in preventing HBV infection after exposure and may confer immediate protective serum concentrations of anti-hepatitis B antibody
- Revising guidelines to include HBIG intervention for HBV PEP can protect patients from the risk of infection and reduce healthcare expenditures and related costs

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