OBJECTIVES: To describe patterns of resource consumption and costs associated with the management of metabolic abnormalities (MA) among newly diagnosed HIV+ patients compared to a matched cohort of non-infected individuals. METHODS: This was a one-year retrospective database study. Administrative claims from a managed care organization located in the Western US were used. Patients 18+ years with a single inpatient or 2 outpatient medical claims with HIV-related ICD-9 codes (042-044, 079.53, 795.71, V08) or at least 2 pharmacy claims for antiretroviral therapy for >30 days between July 1999 and June 2000 were eligible. Patients with claims for HIV or MA prior to index date were excluded. In addition, a matched control cohort was identified. Patients were matched 3:1 based on age, gender and state. Outcomes were MA-related prescriptions, ER visits, physician office visits, hospitalizations, and associated costs. Statistical analysis was conducted using chi-square or t-test as appropriate. RESULTS: One thousand three hundred sixty-eight controls and 456 HIV+ patients were eligible. Mean age was 40 years, and 86% were males. The HIV+ patients had a higher Charlson Comorbidity Index of 0.46 vs. 0.05 (p = 0.0001). More HIV+ patients had a physician visit (12.5% vs. 10.7%; p = NS), hospitalization (2.6% vs. 0.9%; p = 0.004), and ER visit (2.2% vs. 0.1%; p < 0.0001) for MA. Odds ratio for MA-related hospitalizations and ER visits in the HIV vs. control cohorts were 3.1 (95% CI: 1.4–6.8) and 15.3 (95% CI: 3.3–70.2), respectively. Population level mean medical (physician visits, ER visits, hospitalizations) and pharmacy costs for MA in the HIV+ vs. control cohorts were $473.93 vs. $128.60 (p = 0.03); $42.80 vs. $13.69 (p = 0.0005), respectively. CONCLUSIONS: The one-year resource consumption and costs related to MA were significantly higher among the HIV+ cohort. The occurrence of MA in HIV+ patients was associated with a higher burden than in control patients with the greatest impact on MA-related hospitalization and ER visits.

OBJECTIVES: We investigate the cost effectiveness of counseling to improve adherence to highly active antiretroviral therapy (HAART) regimens for HIV infection. Low adherence may lead to drug-resistant HIV strains and poor health outcomes. METHODS: We develop a dynamic compartmental model of HIV progression that accounts for multiple treatment regimens (three HAART regimens followed by salvage therapy), four levels of resistance to HAART, and three levels of adherence to HAART (high, low, and very low). We assume that 61% of high-adherence individuals remain in the high-adherence state at the end of each year. We assume a counseling session by a trained pharmacist is given upon initiation of HAART and following all treatment failures (defined as viral load rebound). We assume that such counseling costs $100 per session, and increases retention in the high-adherence state. We evaluate the cost effectiveness of counseling by simulating over a ten-year time horizon. RESULTS: If the counseling sessions increase retention in the high-adherence state to 65%, then counseling costs $83,700 per QALY gained; if they increases the rate to 75%, then counseling costs $19,500 per QALY gained. If the rate at which individuals switch from low to high adherence in the absence of any interventions is greater than 10% per year then the cost effectiveness of counseling is relatively insensitive to the improvement in adherence. The cost effectiveness of improved adherence is very sensitive to changes in the cost of the counseling sessions. CONCLUSIONS: Counseling to improve adherence to HAART is likely to be cost effective if it increases the high-adherence retention to at least 75% per year. Additional empirical studies are needed to determine the effectiveness of other methods of improving adherence, such as electronic reminders and directly observed therapy. The dangers posed by drug-resistant HIV strains makes this an important issue for further study.

OBJECTIVES: Despite frequently causing serious illness in adolescents, immunization programmes against pertussis have been restricted to children <7. We estimated the economic impact of introducing a booster dose of acellular pertussis vaccine in two Canadian provinces (Ontario and Quebec) using different vaccination schedules. METHODS: We conducted a cost effectiveness analysis using a predictive spreadsheet model with adolescents aged 12 (cohorts of 88,000 in Quebec and