CONCLUSION: Managerial strategies can be developed to control some of the increasing costs by promoting the use of cost-effective therapies for optimum outcomes but pharmacy benefit costs will continue to escalate because of an increasing proportion of recipients and intensity per recipients and compounded by an aging population.

WORK-RELATED COST OF EPISODIC AND CHRONIC-EPISODIC HEALTH CONDITIONS IN THE UNITED STATES: RESULTS FROM THE AMERICAN PRODUCTIVITY AUDIT

Ricci J1, Chee E1, Morganstein D2

1AdvancePCS, Center for Work and Health, Hunt Valley, MD, USA; 2Westat, Rockville, MD, USA

OBJECTIVES: The American Productivity Audit (APA), an on-going week-to-week telephone survey, provides valid and reliable estimates of health-related lost productive work time. This paper describes the APA and identifies the five most costly episodic/chronic-episodic health conditions.

METHODS: We developed and validated the Work and Health Interview (WHI) for APA administration. The WHI quantifies missed work hours and lost productive time while at work for specific health conditions using two-week recall. Two measures were derived for each condition—hours/worker/week of lost productive time (LPT) and its dollar equivalent. Several derivation methods were considered. We selected a conservative method based on self-reported attribution for LPT. A random sample of 13,252 workers 18–65 years of age, selected using Random-Digit-Dialing, completed the WHI by phone in their homes between July 2, 2001 and January 2, 2002. LPT was converted to dollars/worker/week using self-reported annual salary.

RESULTS: Among all respondents, mean LPT from episodic/chronic-episodic conditions was 1.6 hours/worker/week (1.8 hours/week for women; 1.4 hours/week for men). Thirty-three percent reported LPT from >1 of 16 different episodic/chronic-episodic conditions. The prevalence of the five conditions associated with the most LPT/worker/week was cold/flu (8.9%), headache (7.3%), back pain (3.9%), low energy (3.7%), and arthritis (2.7%). LPT attributed to each condition among those affected was cold/flu (0.43), headache (0.23), back pain (0.20), low energy (0.14), and arthritis (0.13). Extrapolating to the US workforce, the estimated cost of these five health conditions to employers was approximately $124.7 billion/year.

CONCLUSIONS: The APA provides national estimates of health-related LPT. Results indicate that common conditions like cold/flu, headache, and back pain result in a significant but largely invisible financial loss to employers. Findings may be subject to seasonality bias based on only six months of data collection. Unbiased estimates that we will benchmark to the Current Population Survey will follow as we collect additional data.

COST-EFFECTIVENESS OF SCREENING DONATED BLOOD WITH MINIPPOOL NUCLEIC ACID TESTING (NAT) FOR HEPATITIS B VIRUS (HBV), HEPATITIS C VIRUS (HCV), AND HUMAN IMMUNODEFICIENCY VIRUS (HIV)

Grima D1, Marshall D1, Weinstein M2, Wong J3, Kleinman S4, AuBuchon J5

1Innovus Research Inc, Burlington, ON, Canada; 2Harvard School of Public Health, Boston, MA, USA; 3New England Medical Center, Boston, MA, USA; 4Kleinman Biomedical Research, Victoria, BC, Canada; 5Dartmouth-Hitchcock Medical Centre, Lebanon, NH, USA

OBJECTIVE: To examine the CE of adding minipool NAT to current blood screening (CS) of volunteer blood donations to reduce the risk of HBV, HCV and HIV infection in the United States.

METHODS: We developed a decision analytic model of screening volunteer blood donations in the US based on recently published Markov models of HBV, HCV, and HIV infection to estimate discounted lifetime costs and quality-adjusted life year (QALY) gains. Infection risk (including prevalence and the window period between antigen and antibody detectability in the donated blood), and test sensitivities were derived from the literature. Age-specific ten-year survival of transfusion recipients was from Vamvakas (1994) and the age distribution from a private managed care database for transfusions in 1995. Secondary analyses considered alternative screening strategies.

RESULTS: The model estimated NAT would annually prevent 37, 128 and 7 transfusion-acquired cases of HBV, HCV, and HIV respectively compared to CS alone (6.2 million transfusion recipients). HCV had the greatest impact on total QALYs and costs. Although the cost per case of HIV avoided was 3–4 times that for HBV or HCV, the overall impact of HIV on CE was small. Adding NAT to CS would add 86 life years, at an incremental cost per life year gained of $2.1M and an incremental cost per QALY gained of $1.2M. The CS + NAT-p24 strategy dominated CS + NAT, and had an incremental cost per QALY of $0.9M compared to CS. Results were most sensitive to disease incidence rates, screening test costs, estimates of window period closure, and the age distribution of transfusion recipients.

CONCLUSIONS: The CE of adding NAT to current screening, although not within a range considered cost-effective for health care treatments, may be reasonable when considered in the context of other blood-related preventive interventions such as autologous blood donation, and the desire for a zero tolerance level for infections from blood transfusions.