

## Fact Sheet: The Business Case for Coverage of Tobacco Cessation 2012 Update

This document provides an overview of “The Business Case for Coverage of Tobacco Cessation 2012 Update” report, which presents an actuarial assessment of the benefits derived from smoking cessation programs as compared to their cost. Overall, the research indicates that an investment in programs designed to reduce adult smoking will lead to improved health outcomes, resulting in lower health care costs and more affordable health insurance premiums.

### Background

- Under the Patient Protection and Affordable Care Act of 2010, tobacco cessation is universally included as a covered benefit<sup>1</sup>
- The U.S. Preventative Services Task Force A- and B-rated services (i.e., tobacco cessation) must be covered<sup>1</sup>
- Each private insurer has the choice of which cessation methods to cover, creating the need for a comprehensive study to discover the cost and benefits of various program<sup>2</sup>

### Quantifying the Actuarial Impact

Since the actuarial impact of smoking cessation programs will be different for each insurer, based on the unique distribution of its members, program features, and corporate practices, an estimated actuarial impact was developed based on average assumptions for a typical insured population.

### Methodology

- Step One: The Prevalence of Smoking in a Typical Insured Population
  - 20.6% of adult Americans aged 18 and older were current smokers in 2009<sup>3</sup>, including 23.1% of adult men and 18.1% of adult women<sup>4</sup>
  - Approximately 16.6%<sup>†</sup> of a typical insured commercial population smokes<sup>5</sup>
- Step Two: How Smoking Affects Medical Costs
  - In 2005, tobacco smoking was responsible for approximately 1 in 5 deaths for adults in the US<sup>6</sup>
  - Smoking costs an average of \$97 billion in lost productivity and \$96 billion in smoking-attributable health care expenditures annually during 2001-2004<sup>7</sup>
    - Data indicates that nonsmokers are more productive, take fewer sick days per year, and use fewer health care resources than smokers<sup>8, 9, 10</sup>
  - The estimated proportion of total medical expenditures attributable to smoking for the US was determined by a 1993 study to be 11.8% with a range across states from 6.6% to 14.1%<sup>10</sup>
  - A more recent study based on the same model projected 2001 costs attributable to smoking using revised information regarding smoking prevalence for each state. This study showed the estimated proportion of total medical expenditures attributable to smoking to be approximately 7%.<sup>11</sup>
  - Based on the sources referenced above, calculations by Leif Associates, Inc. estimate that smokers have health care costs that average 34% higher than non smokers\*
- Step Three: Smoking Cessation Programs: Success Rates and Cost
  - Although approximately 42% of smokers try to quit smoking each year,<sup>3</sup> only between 4% and 7% of people are able to quit smoking on any given attempt without medication or other help<sup>12</sup>
  - The combination of counseling and medication is more effective than either medication or counseling alone<sup>13</sup>

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<sup>†</sup> This number (16.6%) is found by adding the population distribution percentage of male smokers, female non-pregnant smokers, female pregnant smokers and children smokers as determined in Table 1 in the full report.

- The average success rate of a combination of medication and counseling is estimated at 27.6%\*
        - Counseling therapies alone is estimated at 14.6%\*
        - Medication alone is estimated at 21.7%\*
      - The treatment cost would vary with the number of counseling sessions and the medications used, but would likely be in the range of \$600 to \$1,000\*
- Step Four: Health Improvement When Smoking Ceases
  - When a smoker quits, the improvements to his or her health are almost immediate<sup>12</sup>
  - The risk of mortality among former smokers approaches the level of never-smokers 10 to 14 years after cessation.<sup>14</sup>
  - If there is a gradual improvement over time, it can be assumed that during the first three years, a former smoker's health care costs will be at least 10% less than if they had continued smoking\*
- Step Five: Cost/ Benefit Analysis
  - For a hypothetical insured population of 10,000 members, based on the assumptions noted above, calculations by Leif Associates, Inc. estimate the following range of results could be expected within the first three years after smoking ceased\* :
    - Number of smokers: 1,660
    - Annual cost of health care per smoker: \$4800 - \$8900
    - Three year health care costs: \$23,904,000 - \$44,322,000
    - Percent of smokers attempting to quit using a cessation program: 2.4% - 10%
    - Success rate: 10% - 30%
    - Health care annual cost savings per success: \$480-\$890
    - Total three year annual health care cost savings: \$5,760-\$133,500

## Conclusion

- Over a three-year period, expenditures for smoking cessation programs in the range of \$144 to \$804 per smoker attempting to quit should be fully offset by health care cost savings in a typical commercial population
- Greater cost savings likely occur within special populations, such as pregnant women and persons with cardiac conditions, and for persons who remain in the health plan longer than the average of three years assumed in the study\*

## Endnotes

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\* Estimates by Leif Associates, Inc.

1. Healthcare Reform: Preventive Services: What is the Preventive Services Provision Under PPACA and What Plans Must Comply? Society for Human Resource Management, April 30, 2011
2. Barry, Matt. "Projected Business Impact of New Smoking-Cessation Mandates: Part 2-Private Health Insure" Bloomberg Government, November 2010.
3. Centers for Disease Control and Prevention. Vital Signs: Current Cigarette Smoking Among Adults Aged ≥ 18 Years—United States, 2009. Morbidity and Mortality Weekly Report, 2010;59(35):1135–40.
4. Roger, Véronique L., et al. "Heart Disease and Stroke Statistics--2011 Update: A Report From the American Heart Association." *Circulation*, 2010; 114-18.
5. CDC - Fact Sheet - Fast Facts - Smoking & Tobacco Use." CDC - Fact Sheet - Fast Facts - Smoking & Tobacco Use. Centers for Disease Control and Prevention, 21 Mar. 2011. ; "Distribution of the Nonelderly with Employer Coverage by Age and Distribution of the Nonelderly with Employer Coverage by Gender, U.S. (2009)." Kaiser State Health Facts.

6. The Preventable Causes of Death in the United States: Comparative Risk Assessment of Dietary, Lifestyle, and Metabolic Risk Factors. *PLoS Medicine*, 2009; 6(4):1-23.
7. Centers for Disease Control and Prevention. Smoking-attributable mortality, years of potential life lost, and productivity losses: United States, 2000-2004. *Morbidity and Mortality Weekly Report*, 2008; 57 (45): 1226-8.
8. Fiore MC, et al. Effective tobacco dependence treatment. *JAMA*, 2002; 288: 1768–1771.
9. Robbins, Anthony S., et al. Amoroso. Short-term Effects of Cigarette Smoking on Hospitalization and Associated Lost Workdays in a Young Healthy Population. *Tobacco Control*, 2000; 9:389-96.
10. Miller LS, et al. State estimates of Medicaid expenditures attributable to cigarette smoking, fiscal year 1993. *Public Health Rep.*, 1998; 113(2):140–151.
11. American Legacy Foundation. "Saving Lives, Saving Money: Why States Should Invest in a Tobacco-Free Future." Washington, DC: American Legacy Foundation, 2002.
  - a. Based on these estimations, Leif Associates, Inc. calculated that smokers have healthcare costs that average 34% higher than non smokers ( $.206 \times Z + .794 \times 1.00 = 1.07$ ).
12. "Immediate Rewards of Quitting." Guide to Quitting Smoking. American Cancer Society, 1 Jan. 2011. <<http://www.cancer.org/Healthy/StayAwayfromTobacco/GuidetoQuittingSmoking/guide-to-quitting-smoking-rewards>>.
13. Fiore MC, et al. Clinical Practice Guideline: Treating Tobacco Use and Dependence: 2008 Update. Rockville, MD: US Dept. of Health and Human Services, Public Health Service; 2008.
14. Kawachi I, et al. Smoking cessation and decreased risks of total mortality, stroke, and coronary heart disease incidence among women: a prospective cohort study. In: Changes in Cigarette-Related Disease Risks and Their Implication for Prevention and Control (Burns DM, Garfinkel L, Samet JM, eds). NCI Monograph 8. Bethesda, MD: National Institutes of Health, National Cancer Institute, 1997; 531–564.

**Prepared by Leif Associates, Inc.**

Leif Associates, Inc., a healthcare actuarial consulting firm, performed this study. The purpose of the study was to establish whether smoking cessation programs result in sufficient healthcare cost savings to provide a return on investment to the health insurers. The actuarial calculations in this report are based on national average statistics as well as Leif Associates, Inc. proprietary actuarial models and may vary based on population demographics and carrier provider reimbursement arrangements. This report was developed in collaboration with Pfizer, Inc. The project was managed by Collaborative Health Solutions.