

The US Respiratory Arena—In Brief

An Authoritative Round-up of Trends, Statistics and Clinical Research

COPD to Cost US\$800 billion Over 20 Years

Chronic obstructive pulmonary disease (COPD) will cost the US over US\$800 billion in medical expenses over the next 20 years.

This is the key finding of a study that is part of the Burden of Obstructive Lung Disease initiative. Using a mathematical model, the study forecasts that the disease will cost US\$177 billion over the next five years, and US\$689 billion over the next ten.

COPD currently affects an estimated 10.7 million adults in the US, and 120,000 deaths were attributed to the disease in 2002 alone. Whilst smoking rates—the primary instigating factor of COPD—continue to fall, the forecast rise is attributed to the lag time between smoking and development of the disease. Certainly, with COPD already accounting for a significant amount of the current healthcare budget, it is clear that, proportionally, this burden is set to spiral.

The figures were extrapolated from the US\$31.4 billion attributed to COPD medical

expenses in 2003. The US adult population was then divided into groups, categorized as either current or former smokers, or those who have never smoked. With a mean treatment value attached to each group, the study then factored in changes in population demographics to determine the likely numbers of COPD sufferers in the future. “One of the reasons we developed this model was to raise awareness of the costs of COPD and ensure that healthcare decision makers realise the impact COPD will likely have,” said study leader Todd Lee MD, Assistant Professor at Northwestern University in Chicago.

Women with COPD Suffer more than Men with same Severity of the Disease

Women with COPD experience greater severity of the disease—and resultantly it has a greater impact upon their quality of life—than do men with the same level of disease advancement.

It is thought that the differences may account for the higher death rate seen among female sufferers of COPD. The findings were based on a study of 85 woman

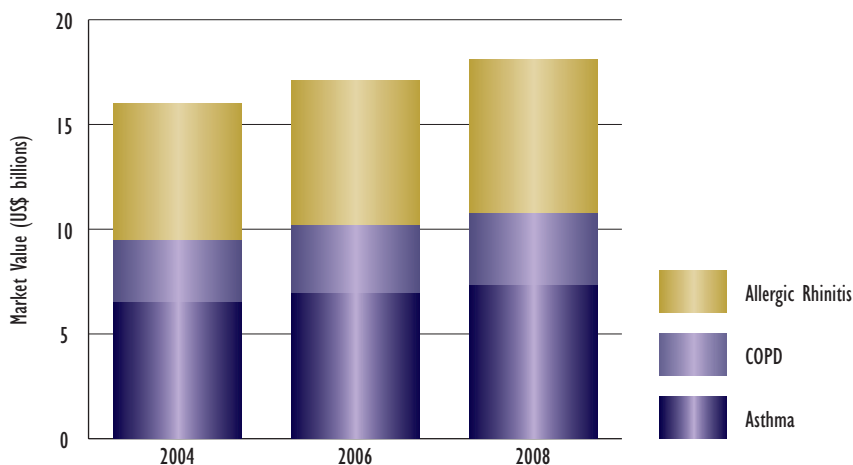
and 95 men with the same levels of COPD development. The researchers, led by Claudia Cote, MD, Professor of Medicine at the University of South Florida, found that female patients were younger than male patients when the same levels of disease severity were reached.

Despite the same levels of disease—graded against the guidelines of the Global Initiative for Chronic Lung Disease (GOLD)—females experienced greater trouble breathing, and suffered from lower lung function.

Since 2000, female fatalities each year as a consequence of COPD have outnumbered those of men. However, reasons for the study’s findings remain somewhat uncertain, although Dr Cote suggested that this was perhaps attributable to under-diagnosis among women, or due to less access to healthcare treatment.

“Women’s life expectancy is on average seven years longer than men’s, so women who are living with a chronic illness like COPD will bear a heavier burden of disease compared with men,” added Dr Cote.

Figure 1: US Asthma, COPD and Allergic Rhinitis Market Value 2004–2008f (US\$ billions)



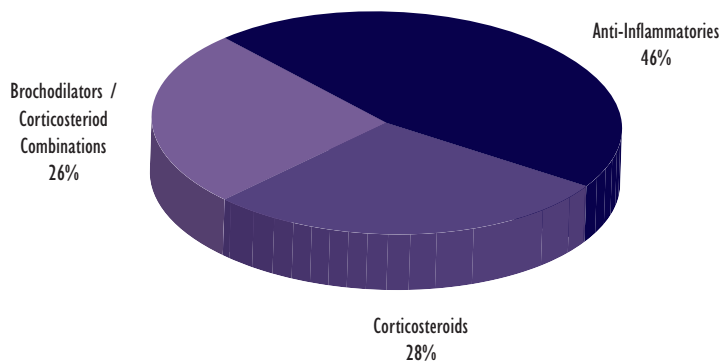
Source: Touch Briefings, 2006

Poll Reveals Women Unaware of Risk of Lung Cancer

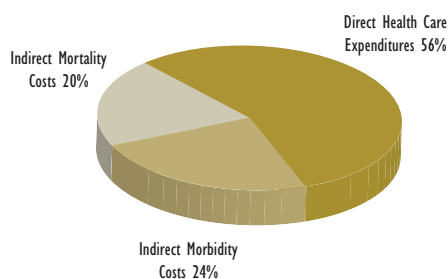
A recent poll has revealed that US women show little concern of developing lung cancer, even though it remains the leading cancer killer of women.

Death rates from lung cancer in the US rank among the highest in the world, with approximately 70,000 fatalities per year, an increase of some 200% over the last 20 years. This is in sharp contrast to lung cancer rates in men, which have fallen marginally over the same period.

Despite the fact that lung cancer is by far the most significant cancer risk (breast cancer ranks second with 41,000 fatalities per year),

Figure 2: US Asthma Therapies—Revenue by Sector 2004 (%)

Source: Frost & Sullivan

Figure 3: US COPD Costs, 2004 (%)

Source: American Lung Association

the survey, conducted by Public Opinion Strategies of Alexander, revealed that 45% of women were most concerned by the risk of suffering a heart attack, whilst 33% cited breast cancer as their leading health fear.

Only 11% of those surveyed said that lung cancer was their number one health fear. This may well be reflective of the fact that public education regarding lung cancer—particularly in females—somewhat lags that of other cancers. Certainly, the federal government spends approximately US\$1,800 per lung cancer death, dwarfed by over US\$23,000 per breast cancer death.

New Predictor for Lung Cancer

A promising biomarker has been identified that may be used to predict survival rates for patients with advanced-stage lung cancer,

and also suggest their likely response to treatment options.¹

Afshin Dowlati, MD, lead researcher at the Cancer Centre of the University Hospitals Cleveland, discovered that patients with a lower level of the biomarker ICAM (intercellular adhesion molecule) showed an increased response to chemotherapy treatment and a greater chance of survival.

The research, based on studying data from a national study for the American Society of Clinical Oncology (ASCO) in 2005 concluded that the antibody bevacizumab in conjunction with standard therapy was more effective for patients with advanced non-small cell lung cancer (NSCLC) than standard treatment alone. Patients with lower levels of ICAM had a better response rate to treatment, of 29% versus 13%, respectively.

Currently, it is a challenge for clinicians to identify which patients will best respond to different treatment types and what the likely outcomes will be. It is believed that this biomarker may serve as a better predictor than patients' health status and factors such as gender, which are currently used.

This latest research vindicates the findings of a 2003 study conducted by Dr Dowlati and colleagues at the Ireland Cancer Center.

Second-hand Smoke is Severely Damaging Public Health

Second-hand smoke poses a serious and pervasive health risk, declares a recent report from the US Surgeon General.²

The report places particular emphasis on the effect of passive smoking on children, and reports that exposure to second-hand smoke is increasing risk of acute respiratory infections, asthma, and infant death syndrome. The report dispels the opinion that only longer-term exposure can result in serious health problems.

In addition to this, the report also cites the link between second-hand smoke and coronary heart disease.

It is hoped that this high-profile and detailed report, titled “The Health Consequences of Involuntary Exposure to Tobacco Smoke”, will help raise public awareness of the debilitating and fatal consequences of second-hand smoke.

Respiratory Disease Leading Cause of Hospitalization for Children

Respiratory diseases and disorders account for more hospital visits for children post-birth than any other conditions.

According to the Agency for Healthcare Research and Quality, respiratory disorders account for 23% of all hospital care visits in children of 17 years or less, with asthma and bronchitis among the leading causes. With an average 160,000 hospitalizations per annum, respiratory disorders lead appendicitis (approximately 80,000 visits per year) and gastroenteritis (75,000 per year).

The statistics were derived from the Kids' Inpatient Database, part of the Healthcare Cost and Utilization Project, the US's largest publicly available patient database. ■

1. Dowlati, et al., Case Western Reserve University. “Prospective correlative assessment of biomarkers in E4599 randomized phase II/III trial of carboplatin and paclitaxel ± bevacizumab in advanced non-small cell lung cancer (NSCLC)” *Journal of Clinical Oncology*, 2006 ASCO Annual Meeting Proceedings (Post-Meeting Edition), Vol 24, No 18S (June 20 Supplement), 2006: 7027
2. The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General are available at: surgeongeneral.gov/library/secondhandsmoke.