

## — Foreword —

The National Lung Health Education Program:  
A New Frontier for Respiratory Care Professionals

The National Lung Health Education Program (NLHEP) is a new health care initiative for America. NLHEP aims to identify smokers and patients with respiratory symptoms who are just beginning to develop airflow obstruction and are on the pathway to symptomatic chronic obstructive pulmonary disease (COPD).

The scientific foundations for NLHEP are found in the Lung Health Study.<sup>7</sup> Briefly, the Lung Health Study (LHS) identified nearly 6,000 people with mild degrees of airflow obstruction (mean age  $48.5 \pm 6.8$  years, forced expiratory volume in the first second [ $FEV_1$ ] of forced vital capacity [FVC]  $63\% \pm 5.5\%$ ). The purpose of the LHS was to study strategies that could reduce the rate of decline in airflow obstruction as judged by  $FEV_1$ . In brief, those patients who succeeded in stopping smoking (22%) throughout the 5-year follow-up had an initial small improvement in  $FEV_1$  followed by a very slight decline, resulting in essentially no losses in  $FEV_1$  at the end of the 5-year follow-up. By contrast, the patients who continued to smoke within the 5-year period (78%) had more rapid rates of decline but were still not in the symptomatic range of COPD. Patients who were randomized to receive ipratropium bromide showed a bronchodilator effect throughout the 5 years of the study, but there was no change in baseline  $FEV_1$ . Another study, however, drew quite different conclusions, showing an improvement in  $FEV_1$ .<sup>2</sup>

An important outcome of the LHS was the cause of death which included lung cancer ( $n = 57$ ), heart attack and stroke ( $n = 37$ ), and all other causes of death including other smoking-related cancers. It is interesting that no patient died of COPD during the LHS for the simple reason that they had not yet reached the symptomatic range of  $FEV_1$  and the stage of disease characterized by premature mortality. Thus, the LHS clearly showed that spirometric abnormalities are a surrogate marker for death from other major diseases.<sup>3</sup> This fact has actually been well known since the Framingham Study. In fact, spirometric abnormalities predict all-cause mortality.<sup>4</sup>

NLHEP is directed to all primary care professionals including respiratory therapists, physician assistants, nurse practitioners, and primary care physicians. The aim of NLHEP is to reach all smokers and patients with common respiratory symptoms of dyspnea, cough, sputum, and wheeze, who are

already on the pathway to developing COPD but do not know this. In this regard, the respiratory care professional will likely play a key role. The major challenge in NLHEP is to put spirometers in the hands of all primary health providers and to promote accurate use of these devices. Respiratory care practitioners are knowledgeable in spirometry and in teaching proper spirometer techniques. It is hoped that the respiratory care professional can promote the widespread use of spirometry in all physician and other health care provider offices.

One of the challenges of NLHEP was to convince industry to develop a new generation of spirometers that are accurate, user friendly, essentially maintenance free with easy calibration, and low in cost. This was quite a challenge. However, at this writing at least 3 spirometer companies have met the challenge to develop such simple devices that give direct read-out of  $FEV_1$ , FVC, and the ratio between the two. The capability of printing out volume-time and flow-volume curves is an option, as is the level of memory for the spirometer. The office spirometer must become as ubiquitous as the sphygmomanometer for NLHEP to succeed.

NLHEP is sponsored by the American Association for Respiratory Care, the American Association for Cardiovascular and Pulmonary Rehabilitation, the American College of Chest Physicians, the American Thoracic Society, the American College of Physicians, and the Society of General Internal Medicine. Government sponsors are the Lung Division of the National Heart, Lung, and Blood Institute, the National Cancer Institute, and the National Institute of Occupational Safety and Health. Thus, both powerful societal and government agencies are allies for a common purpose.

In some ways, NLHEP is patterned after the National Hypertension, National Cholesterol, and National Asthma Education Programs. Certainly these 3 initiatives have had a major impact on the health of this country and have been particularly notable for the reduction in heart attack and smoking due to the control of major risk factors in cardiovascular diseases. The impact of the National Asthma Education Program is just being evaluated.

NLHEP, however, has an opportunity that goes beyond these previous health care initiatives. Because spirometric abnormalities are predictive of the risk of death from all causes

and, most particularly, lung cancer, heart attack, stroke, COPD, and other smoking-related cancers, the spirometer becomes the key instrument in finding patients for whom smoking cessation is an absolute must. It is fortunate that new knowledge concerning smoking cessation, new pharmacologic agents using various forms of nicotine replacements, and other pharmacologic agents including **buspirone**<sup>5</sup> and **bupropion**<sup>6</sup> can form an effective armamentarium that theoretically, at least, could result in 50% of smokers succeeding in sustained smoking cessation. Thus, NLHEP could be a major health care initiative that will go far beyond the challenge of COPD.

COPD, however, is the most rapidly rising cause of **death**—now ranking number 4 with an estimated 110,000 predicted deaths in 1998 alone. COPD alone is the only disease among the top 10 that continues to rise. Thus, COPD is a challenge for all health professionals, and the NLHEP offers a great new frontier for the respiratory care professional

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