business function of specialty practices are relatively rare, and it is quite difficult for physicians in medical specialties to obtain comparison benchmarks for their practice activities. For example, the large organizations that supply such data, such as the Medical Group Management Association, tend to report data from large multispecialty groups rather than from smaller single-specialty practices.

While the results of the practice performance survey suggest "best practice" and outline some of the activities that might improve performance, they are just a first step, albeit a crucial one. Physicians can be as effective as any small business owners in managing or at least overseeing the economic aspects of a practice. But many other issues should be addressed in such surveys. For example, Nurse Practitioners and Physician Assistants are mentioned, but productivity increases and the expectations of these providers are not included. The questions are how much work should be expected from the mid-level provider and has the use of physician extenders proven to be more financially beneficial than, for example, expanding the practice by hiring an additional physician? Furthermore, many other potential best practices should be explored, including having the medical practice employ outside billing companies compared to the practice managing the billing or the economic benefit (or burden) of electronic medical records. Finally, and perhaps unfortunately, physician productivity must be assessed and data on the generation of work relative value units as a tool to assess physician productivity should be included in future surveys.

As Adam Smith pointed out in *The Wealth of Nations*, "Capital is increased by parsimony, and diminished by prodigality and misconduct". Controlling costs and optimizing effectiveness and efficiency are crucial in a business, and, for better or for worse, the reality of the physician as businessman must be faced. The information provided by the survey of pulmonary practices begins to inform this medical community of "what they do not know."

Stanley Goldfarb, MD
Philadelphia, PA
Christopher Higgins, CPA
Richmond, VA

Dr. Goldfarb is Professor of Medicine, University of Pennsylvania School of Medicine. Mr. Higgins is Executive Director, Department of Internal Medicine, Virginia Commonwealth University.
The authors have reported to the ACCP that no significant conflicts of interest exist with any companies/organizations whose products or services may be discussed in this article.

Correspondence to: Stanley Goldfarb, MD, University of Pennsylvania, 3450 Hamilton Walk, Philadelphia, PA 19104-6087; e-mail: stanley.goldfarb@uphs.upenn.edu.
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Paying Attention to At-Risk Commercial Vehicle Operators

In this issue of *CHEST* (see page 902) is an executive summary from an article written by a tri-society task force that is entitled "Sleep Apnea and Commercial Motor Vehicle Operators."[1] This summary and the original article, published in the *Journal of Occupational and Environmental Medicine*,[2] were authored by members of the American College of Chest Physicians, the American College of Occupational and Environmental Medicine, and the National Sleep Foundation, and were endorsed by the boards of all three societies. This task force was convened to provide updated recommendations based on the current literature in this field. The last time this topic had been systematically examined was almost a decade ago. The current US federal medical standard for commercial motor vehicle (CMV) operators that covers obstructive sleep apnea (OSA) is in section 49 CFR 391.41 (b)(5) of the Federal Motor Carrier Safety Regulations. In this section, it states that the CMV driver "Has no established medical history or clinical diagnosis of a respiratory dysfunction likely to interfere with his ability to control and drive a motor vehicle safely." The most recent guidelines that a commercial driver medical examiner would have to refer to for the "respiratory dysfunction" of OSA were two Federal Highway Administration conference reports from a 1991 Conference on Respiratory/Pulmonary Disorders and Commercial Drivers[3] and a 1998 Conference on Neurologic Disorders and Commercial Drivers.[4] The 1991 report suggested that drivers should be screened by asking whether they snore and frequently fall asleep during the day, and those with suspected or diagnosed but untreated OSA should not be medically qualified to drive until the diagnosis was eliminated or the condition successfully treated.

Once the condition was diagnosed, it was recommended that drivers not return to work for 1 month. Prior to returning to work, the driver should undergo either a repeat sleep study showing resolution of the apneas or a multiple sleep latency test (MSLT) yielding normal results. Yearly sleep studies or MSLTs were recommended for follow-up. The neurologic disorders report[4] recommended that CMV operators with sleep apnea and any of the symptoms related to excessive daytime sleepiness not be permitted to operate in interstate commerce. Only surgical treatment was addressed in this report, and a 3-month wait and laboratory studies (*eg*, MSLT or polysomnogram) were recommended prior to allowing operators to resume commercial driving. In 2000, a new medical examination form went into use that required drivers to indicate whether they had a sleep disorder, pauses in breathing while asleep, daytime sleepiness, or loud snoring, but provided no additional guidance on diagnosis, treatment or follow-up.

Given what we have learned over the past decade about the morbidity and mortality associated with OSA, it was felt that this important area be reinvestigated. It is known, based on numerous studies, that OSA patients have a twofold to sevenfold increased risk of at-fault motor vehicle crashes.[5] Furthermore, based on a study in Pennsylvania,[6] there is a higher prevalence of OSA in commercial truck drivers (apnea-hypopnea index [AHI] between 5 and 15 events per hour, 17.6%; AHI between 15 and 30 events per hour, 5.8%; AHI $>$ 30 events per hour, 4.7%). Additionally, CMV operators must be held to a higher standard than the rest of us as they operate larger vehicles that may contain hazardous chemicals or large numbers of passengers. There also is a much higher fatality risk for occupants of the vehicles they hit; trucks $>$ 10,000 lb in weight are seven times more likely to be fatal to other motorists as to the truck occupants.[7] Finally, CMV operators often have economic incentives to drive extremely long distances or in unsafe conditions.

The approach of the task force to this project was to review the existing pertinent literature, medical regulations/guidelines/standards from international organizations, and reports and recommendations from the National Transportation Safety Board and Federal Motor Carrier Safety Administration. Several experts were called on to review and write sections, and a consensus style meeting took place to review the literature and agree on recommendations. Experts included specialists in both occupational medicine and sleep medicine. The result is not an evidence-based guideline, but a consensus-type document based on the literature as it relates to this topic to date. It is also important to note that these recommendations are of this task force and do not represent official guidelines. Many of these recommendations are very similar to what exist in other countries including Canada,[8] the United Kingdom,[9] and Australia,[10] all of which were reviewed by this task force.

One of the many issues that the task force faced was how to measure the effectiveness of the therapy after it was initiated. Past recommendations have included these in the follow-up of these patients to assist with determining when it is "safe" for them to return to work. Several studies were reviewed that looked at a variety of measures of sleepiness, including subjective measures such as the Epworth sleepiness scale, and objective measures including the MSLT, the maintenance of wakefulness test, the Oxford Sleep Resistance Test, the psychomotor vigilance test, and driving simulators. Subjective measures are often difficult to determine in this population whose livelihood requires them to be awake and vigilant at all times. Motivation to keep their job may outweigh their honesty on subjective scores like an Epworth sleepiness scale. Moreover, objective measures have not been shown in any of the tests to specifically correlate with fitness to drive or the number of crashes. The objective tests are also subject to a number of factors that may vary from one day to the next and one patient to the next, including age, circadian rhythm, quantity and quality of prior sleep, medications, and psychological factors. Therefore, you will not find any of these specific tests recommended by the task force. Best clinical judgment is recommended when deciding about sending a CMV operator back to his job after treatment for OSA.

The executive summary provides the highlights of the recommendations. It gives commercial driver medical examiners some guidelines for determining when a CMV driver deserves further evaluation for possible sleep apnea based on history and physical examination findings, but is felt to be able to continue his job during the evaluation, and also recommends conditions when a driver should be taken out of service until the appropriate diagnostic and treatment options can be performed. The executive summary discusses which treatments should be recommended, when it is felt that a CMV operator can return to work after treatment, and what type of follow-up is required.

Why is this important to the readership of *CHEST*? It has been estimated that up to 40% of outpatient visits to the office of a community pulmonologist are for sleep-disordered breathing. Pulmonologists will often be the one screening these patients and overseeing their care. With the advent of CPAP machines that can objectively measure usage, a physician is better able to monitor patients'

adherence to therapy and assist them in troubleshooting problems. This is an important issue to everyone driving on our highways and is especially important to those of us caring for patients who may be CMV operators.

Nancy Collop, MD, FCCP
Baltimore, MD
Natalie Hartenbaum, MD, MPH
Dresher, PA
Ilene Rosen, MD, FCCP
Philadelphia, PA
Barbara Phillips, MD, FCCP
Lexington, KY

Dr. Collop is Associate Professor of Medicine, the Johns Hopkins University. Dr. Hartenbaum is President and Chief Medical Officer, OccuMedix, Inc, and Adjunct Assistant Professor of Emergency/Occupational Medicine, University of Pennsylvania. Dr. Rosen is Assistant Clinical Professor of Medicine, the University of Pennsylvania. Dr. Phillips is Professor of Medicine, the University of Kentucky.
The authors have reported to the ACCP that no significant conflicts of interest exist with any companies/organizations whose products or services may be discussed in this article.

Correspondence to: Nancy Collop, MD, FCCP, Johns Hopkins University, Division of Pulmonary/CCM, Johns Hopkins University DOM, 1830 E Monument St, Room 555, Baltimore, MD 21205; e-mail: ncollop@aol.com
DOI: 10.1378/chest.130.3.637

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