(two stories); islet cell transplants (three stories); insulin pumps; retinopathy; antibody injections to block diabetes' progress; and how walking reduces the risk of developing diabetes (one segment each). Unlike many stories about heart disease and cancer, not one diabetes segment was paired with the obituary of a famous person who had died from that disease.

During the same period, 982 news segments were aired on heart disease and 1016 on cancer. The relative amounts of coverage stayed about the same as were aired the previous 10 yr except for heart disease, which received nearly five times more coverage, probably the result of media interest in the National Cholesterol Education Program and the Surgeon General's war on smoking, which has emphasized cardiovascular risks as much as cancer risks.

What was the source of each diabetes-related story? Seven were picked up from the *New England Journal of Medicine*, two from the *Journal of the American Medical Association*, and one came from *Science*. Only one was based on a presentation at an American Diabetes Association annual scientific meeting.

Nightly news programs are not the public's only source of medical information. Our search of the *Readers Guide to Periodical Literature* revealed that diabetes was mentioned in nearly as many articles as cancer. Unfortunately, 65% of American adults get most of their current events information from television—only 4% use magazines as their news source (4).

News coverage is not always good. For example, one researcher predicted no need for insulin injections before the end of the 1980s. Only three segments stated that more experiments would be required before diabetic persons might benefit from reported findings. Such stories inflate patients' hopes and may make them feel shortchanged to discover breakthroughs first from TV news and not from their health professionals.

Why should the national news concern ADA members? Coverage creates awareness. Awareness of diabetes' seriousness can create advocacy, increasing the likelihood of research and health care funding. No one questions the legitimacy of public attention to cancer and heart disease. Yet, Todd Leigh, former ADA chairman of the board, recently wrote that diabetes is "as dangerous as cancer or heart disease and yet, somehow, the urgency of this situation has never fully been driven home to the American people" (5).

The ADA has launched a new, aggressive, national awareness campaign. Targeting groups at risk, the campaign will focus on early detection, and will attempt to increase awareness of the symptoms and seriousness of diabetes. We applaud this effort. And we call upon media leaders and national television news organizations to bring these critical, life-saving messages to the millions of people they serve.

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Respiratory Function in IDDM Patients

A significant reduction of total lung capacity has been described in nonsmoking IDDM patients (1). Respiratory function impairment has been attributed to the increased thickness and content of collagen and elastin in the alveolar basal lamina, a hypothesis that has gained some credit by the finding of augmented elastic recoil of the lung in IDDM patients (2). On the other hand, other investigators have failed to demonstrate a reduction in lung volumes of diabetic patients (3) or have found reduced pulmonary elastic recoil that was not associated with accelerated aging of collagen (4).

We examined 27 nonsmoking male IDDM patients who had no history of atopy, respiratory disease, cardiac failure or recent respiratory tract infections, or neuromuscular defects. They were not taking any drugs known to interfere with pulmonary function. A group of healthy nonsmoking subjects matched for sex, age, and weight served as control subjects. Volume displacement was measured with a computerized spirometer (Spirograph Multispiro FA/100, Burke & Burke, Milan, Italy): spirometry included measurements of FVC, FEV_1, and their ratio. The measurements are expressed as percentages of the predicted values, according to the European Community for Steel and Coal reference values (5). The presence of diabetic autonomic neuropathy was checked with the classic cardiovascular reflex tests (deep breathing, modified 30/15 ratio, Valsalva maneuver, postural hypotension). Nephropathy was screened by overnight microalbuminuria, retinopathy by eye examination, and macroangiopathy by Doppler examination.

All diabetic patients were free from common major complications. In particular, the autonomic neuropathy score was <2, the overnight microalbu-

Table 2—*Clinical characteristics and respiratory function in the diabetic patients investigated and in control subjects*

	N	AGE (YUR)	BMI (KG/M^2)	FVC	FEV_1 (% PREDICTED)	FEV_1/FVC
DIABETIC PATIENTS	27	23.2 ± 6	18.7 ± 1.8	93.5 ± 9.1	95.8 ± 9.5	100.2 ± 10.5
CONTROL SUBJECTS	15	21.7 ± 5.0	19.7 ± 1.3	106 ± 10	103.5 ± 10.5	97.3 ± 9.5

Data are means ± SD.

minuria was <30 μg/ml, Doppler examination was normal, and eye examination revealed only minimal changes of the retinal vessels. As shown in Table 1, the diabetic subjects presented values of respiratory function slightly but not significantly lower than control subjects. In 7 diabetic patients, lung volumes were lower than those of the remaining 20 diabetic patients (FVC, 85.5 ± 7.4; FEV_1, 86.1 ± 7.8; $P < 0.05$). Duration of known disease was the only variable that discriminated patients with low or normal lung volumes (9.8 ± 5.0 vs. 5.8 ± 3.2 yr, $P < 0.05$).

In studies that demonstrated reduced lung volumes in diabetic patients, the mean duration of disease was >10 yr on average. The diabetic patients we studied were younger, and the duration of disease was shorter. This suggests that chronic hyperglycemia or some metabolic variable associated with it may be related to pulmonary function. Consistent with this, long-term near-normoglycemia achieved with insulin pumps may be beneficial in preventing the deterioration of lung function associated with diabetes mellitus (6). Whatever the mechanism involved, the functional significance of the reduction of lung volumes reported in some diabetic patients is not known, but is probably small.

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IDDM, INSULIN-DEPENDENT DIABETES MELLITUS; FVC, FORCED VITAL CAPACITY; FEV_1, FORCED EXPIRATORY VOLUME IN 1 S.

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More Concerns Regarding Methodology in Hypoglycemia Study

We note with interest the discussion of the paper by Muehlhauser et al. (1) regarding hypoglycemia symptoms and the incidence of severe hypoglycemia in patients treated with human and animal insulin (1–5). As clinicians involved in the recruitment of patients into this study (center no. 7), we feel compelled to comment on the criticisms raised and on the authors' response.

First, the authors fail to clarify the procedures used for patient selection and matching on diabetes duration. The study protocol states that "about 800 to 1000 patients with type I diabetes, who had been informed about their diabetes by a doctor, shall be interviewed" (1). Indeed, no exclusion criteria or matching procedures are mentioned in the study protocol, and the participating centers were presented with the results of the study, based on a total of 551 patients, in February 1990. This analysis indicated no difference in symptoms and frequency of hypoglycemia between human insulin– and animal insulin–treated patients, but a clear difference was noted in the mean duration of diabetes—13 yr in 297 human insulin–treated patients compared with 18 yr in 254 animal insulin-treated patients. When the data were presented later at the annual meeting of the German Diabetes Association, we realized that patients (3 from our center) had been excluded to balance the groups for diabetes duration. This had neither been foreseen in the study protocol, nor was it described in the study published in *Diabetes Care* (1).

Furthermore, with regard to our patients, we noted numerous inaccuracies. Five of 29 (17%) patients were actually taking a different insulin species