

cial genetic-testing companies. Would Dr. Milunsky allow these academic laboratories and these academic geneticists to join his academic laboratory network? Will he require full disclosure of all commercial ties as a prerequisite to joining the network? Otherwise, he may find a mole in his midst.

A number of American hospitals now have food-service programs operated by outside companies. These food-service programs earn money for the hospital and often serve as training sites for handicapped persons. We envisage, by analogy, a medical school's genetic-testing laboratory being operated by a commercial company and, in return, the company providing the medical school with sufficient funds for teaching and research.

There is a transient window of opportunity. Academic genetic programs can negotiate long-term contracts with commercial companies. At present, genetic-testing companies still perceive benefits from joint ventures with academic genetics. Once the companies develop their own in-house research, development, and training, however, they will no longer have any incentive to affiliate with academic genetics.

The only solution is for academic medical genetics and industry to work together to bring services, teaching, and research to the highest level possible. Federal and state governments do not have the funds to support academic medical genetics as fully as in the past. Industry has the money and can raise more. The future is to work toward a permanent partnership between academic and industry in medical genetics.

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*Am. J. Hum. Genet.* 51:894-895, 1992

## Reply to Hecht and Hecht, Trigg and Geier, and Warren

*To the Editor:*

Three correspondents from commercial laboratories and well over 100 laboratory directors responded directly to my letter of concern and invitation to establish an academic-based laboratory network, many with strong words of support. It was encouraging that all three of the former recognized the extant difficulties of obtaining federal and state funding for research and were conciliatory about academic/commercial interrelationships.

The reader will have to forgive the "demonic" simile used by my old friend Dr. Fred Hecht (Hecht and Hecht 1992), now clearly affected by the Florida heat. Goethe interpreted "demonic" as relating to the nature of supernatural power or genius, an appellation I appreciate but can hardly accept! (It couldn't be that Dr. Hecht had another interpretation, could it?)

Each of the respondents has chosen to ignore and/or misinterpret my central message of concern. The Hechts, invoking "protectionism," are out of touch with academic realities. Academic-based laboratories throughout the country are not feeling the *giving* corporate hand of commerce but, rather, their *taking* hands. An anonymous philosopher once opined that when you're up to your ass in crocodiles, it's not the time to pontificate about how to drain the swamp. *Clinical academic laboratories need to support each other by interlaboratory referral.* This is not protectionism; it's simple common sense.

Dr. Warren (1992), too, having been in business so long, seems unaware of very long-standing faculty practice plans that are not "contrary to the fundamental concept of academia." Indeed, many such fee-for-service academic facilities serve as valuable training locations for geneticists and genetic counselors. Dr. Warren's own huge financial success should remind him about the profit motive, and he should not confuse the reader with suggestions that "the focus and dedication of commercial labs is to medical genetics at the highest level." He is incorrect in his assertion that I *advocate* "direct liability" for genetic counselors with a masters degree. The fact is, litigation involving these counselors is well underway, and the National Society of Genetic Counselors should issue an advisory to their members.

Drs. Trigg and Geier (1992) state that the greatest honor and prestige that can be bestowed upon academicians is that their work be accepted and transferred to *private* laboratories “assuring that their research benefits mankind!” Really! How unworldly a view! In addition, these authors did not read my letter carefully and have missed (as did the Hechts) my quintessential message. I am *not* against private medicine or the transfer of technology. Care of the patient/family with or concerned about a genetic disorder is best achieved through comprehensive services by appropriately certified geneticists who *see* the patient and family. An academic versus a private setting is *not* the problem. Mega-commercial labs are the source of the current problems, for the following reasons:

1. They simply obtain samples directly from offices of private physicians, providing results that these physicians are incapable of interpreting. Worse still, these physicians are frequently unaware of their own limitations or of the extent of knowledge on the subject matter.
2. They do not see the patient or family, abandoning these individuals in total anguish and leaving the academic centers to pick up the bits and pieces.
3. In their rush to market new techniques, they ignore required adherence to licensing regulations, peer review, FDA approval, and ethical standards.
4. They often use genetic counselors with masters degrees to practice medicine—a highly inappropriate activity, whether it is done by telephone or in person in the offices of private physicians oblivious of their shared liabilities.

Dr. Warren, probably *the* veteran of commercial genetics labs, finally, despite a host of misinterpretations in the first half of his letter, achieved laudable clarity in emphasizing that cytogenetics and biochemical and molecular genetics “are highly specialized esoteric laboratory tests requiring a *team* [emphasis added], including qualified counselors and physicians.” Could anyone reasonably disagree?

Current mega-commercial laboratory practices are inimical to the survival of academic-based genetic laboratories. Until such time as these ventures operate in ways that do not threaten academic laboratories, an interacademic laboratory referral directory will be helpful, and those who still plan to participate should do so immediately. Meanwhile, practicing physicians should be educated about the importance of compre-

hensive genetic care for their patients, whether it be in the academic or the “private” setting.

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### Genetic Discrimination and the Americans with Disabilities Act

*To the Editor:*

In their invited editorial, Holtzman and Rothstein (1992) maintain that our paper “Genetic Discrimination and the Law” (Natowicz et al. 1992) gives a “misleading impression of the protection provided by the ADA” (Americans with Disabilities Act) (p. 458). They go on to say that “according to the Equal Employment Opportunity Commission (EEOC), the agency charged with enforcing the ADA, an individual is not covered under the law until he or she is symptomatic (Blumenthal 1991). Consequently, presymptomatic individuals with late-onset disorders, such as HD and adult polycystic kidney disease, are not covered. Carriers of recessive disorders, such as cystic fibrosis, and carriers of X-linked disorders, such as DMD, are not covered and could be denied employment” (p. 458).

We believe that Holtzman and Rothstein have misread Blumenthal’s letter. Blumenthal’s letter is a response to questions posed by Representative Bob Wise