SOME ARGUMENTS AGAINST THE STANDARDIZATION OF HERBALISTS

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The drive by some segments of the herb community to begin certification for herbalists is a parallel movement to the standardization of plant medicines – a way of standardizing herbalist practitioners. It is accompanied by the same arguments put forward in support of standardizing herbs – to protect the consumer and raise quality. There is evidence that such an approach to herbal practice will not produce the outcomes that proponents assert.

Milton Friedman comments succinctly in *Capitalism and Freedom* (1) that the overthrow of the European guild system was indispensable to the rise of freedom in the Western world. It allowed everyone to pursue whichever trade they desired; the huge surge in the development of new knowledge as well as the growth of an entrepreneurial society was completely dependent on this freedom to explore, cross boundaries, and blend disparate information and skills. He argues convincingly that licensure and certification are simply a return to the guild system of medieval Europe. Guilds, he remarks, existed for three reasons: money, power, and control. The guilds restricted entry into certain areas of trade, they allowed more money to flow to those working in the restricted areas of trade, and they concentrated power in the hands of a few.

Friedman is not alone in questioning whether or not the publicly stated goals of these groups – protecting the consumer and raising quality (of either product or practitioner) – are actually met. Increasingly, studies show that there is little or no relation between licensure or certification, consumer protection, and higher standards.

The lack of relationship is possibly due to the reasons why licensure or certification is pursued. It is very rare that consumers themselves initiate licensure or certification processes. The drive for licensure and certification is nearly always begun by the to-be-licensed groups. The underlying reason has been found to be universal, irrespective of trade – the desire to carve out protected territory in which they can practice either uninhibited or without competition – in other words, protecting turf and increasing income (2-4).

And restrictive legislation does seem to provide this: studies show that professional incomes generally double after state regulation is instituted (5,6). An essential point about herbal certification is that there is no demand by consumers – no clarion call – for legislation protecting them from inadequately trained practitioners.* The call comes, as it historically seems to do, from the practitioners themselves, in this instance, a particular type of herbal practitioner – the rational phytotherapists or "science-based" clinicians. But does certification or licensure of these kinds of groups actually result in better care, consumer protection and higher standards of practice? A century of such laws finds that it does not.

Numerous articles and studies have appeared over the past three decades commenting on the healthcare crisis in the United States. Rising costs, poor or no care for certain groups, delays in even minimal services for the ill have all illustrated the need for health care reforms. A number of studies have examined whether or not regulation of healthcare workers has any relationship to these problems. One Iowa study found that while medical licensure was originally established for the purported purpose of raising the quality of care for the ill, the actual result was a decreased availability of services, especially for the poor (11).

Neither do these types of regulations seem to protect consumers from harm. A U.S. Federal Trade Commission study on regulation of the television repair industry found that the incidence of consumer harm was unrelated to regulation; levels of harm remained the same irrespective of comprehensive licensing laws designed to protect consumers. Prices, however, were significantly higher. Similar studies have shown that levels of real estate fraud and consumer harm are unrelated to the licensure of real estate agents (12). A U.S. Bureau of Economics study of seven licensed professions noted that "While a few studies indicate that higher quality levels may result from such licensing restrictions, a majority of the work to date finds quality to be unaffected by licensing or business practice restrictions associated with licensing. In some cases quality actually decreases." The study found that restrictions on professional practice – in all cases – were ultimately detrimental to consumers (13).

Closer to herbalism perhaps, laws regulating psychotherapists have not been found to protect consumers from harm. The reform legislation eventually instituted in Colorado occurred not because there were no laws in place to protect consumers but because existing licensure laws did not do what legislators were told they would when passed. In revisiting the issue Colorado's Department of Regulatory Agencies noted that licensure did not effectively prevent harm and further found that there was, in fact, no relation between training and competence. "Traditional licensing theory," they commented, "assumes that competent practice is derived from the educational base, the skills development and the supervised experience that licensees must demonstrate prior to licensure. There is not, however, a lot of empirical data that supports this assumption as accurate" (14, p11). The state of Colorado took a unique approach to solving the problem: it decided to allow anyone who wishes to do so to practice as a psychotherapist. To

protect the public it instituted, instead of licensure or certification, a comprehensive process of informed consent backed by a regulatory board to hear complaints of harm.†

There are increasing reasons to apply the Colorado findings to the licensing of physicians and other health care practitioners. Studies continue to show that the licensure of medicine has resulted in the very same outcomes found in other fields – poorer care, higher prices, less innovation, and strident protectionism (1,4,11,15-17).

The extensive education and training required of physicians does not actually seem to eliminate patient harm. A landmark study commissioned by the Institute of Medicine's Committee on Quality of Health Care in America found physician error to be rampant. The study estimated that between 44,000 and 98,000 people die each year from medical errors. The authors of the report concluded that their figures are almost certainly conservative (18). An additional study, reported in the Journal of the American Medical Association, showed that some 300 people are killed every day by properly prescribed and administered pharmaceuticals. Nearly 7,000 people per day are hospitalized or permanently disabled by those same drugs (19). While it might be argued that physicians have little control over the impact of pharmaceuticals on their clients, that it is a U.S. Food and Drug Administration issue, it is in fact the physicians that actually prescribe the drugs and death and disability from pharmaceuticals is rightly viewed as an iatrogenic, or doctor-caused, disease.‡

In-depth knowledge of a "science-based Western" approach to the human body and illness does not, in practice, seem to necessarily produce safer outcomes or competent practice. In part this is because many of the areas that physicians must now study have not come out of what they have found they need, but from licensure boards that set standards for physicians and

the schools they attend. This is common in any field where licensure or certification occurs. Once a regulatory law is passed, a board is appointed to oversee the implementation of the law. These boards are generally composed of members of the professional group being regulated – for they are generally more aware of and motivated about the needs of the profession than the general public. There may or may not be one or two consumer members of the board. Over time, the boards set more and more complex educational and testing requirements for those seeking licensure or certification (16). Friedman has some succinct comments about the licensure of barbers as an example of this.

All potential barbers must attend a school for barbering, then participate in an internship. They must show proficiency in "the scientific fundamentals of barbering, hygiene, bacteriology, histology of the hair, skin, nails, muscles and nerves, structure of the head, face and neck, elementary chemistry relating to sterilization and antiseptics, disease of the skin, hair, glands and nails, haircutting, shaving, arranging, dressing, coloring, bleaching, and tinting of the hair"(1, p142). There is little evidence that the majority of these areas of study actually produce a better barber or are even related to barbering. They do support an increasingly complex education industry that provides both the initial education and continuing education credits (CEUs) afterward. No studies confirm the belief that CEUs enhance practitioner competence.§ For example, Morrison notes, "National organizations in pharmacy have also pressed for continuing education credits in each state using material approved by the American Council on Pharmaceutical Education, despite criticism that these requirements bear little relationship to what pharmacists need to enhance their actual competence in practice" (16). These increasingly complex regulations do increase prices to the consumer and prevent people who want to

approach barbering from a different orientation from entering the field and creating alternatives.

Economists such as Milton Friedman make an important point: prices are always lower and consumer protection higher in the presence of the least intrusive government regulation. This is because the field remains open to innovative outsiders, to cross-mixing between disciplines, and to competitive pricing. Just what produces the best training and knowledge base (and hence outcomes) is left open to those who feel compelled to work in the field to discover. Those arguing for the certification of herbalists might insist that certification is not intended to be state sanctioned but is merely voluntary. This approach, outlined in Kathy Abascal's and Eric Yarnell's article "Certifying Skill in Medicinal Plant Use" in HerbalGram 5220 is, in actuality, no better than state licensure, and indeed, is only a prelude to it. It will, voluntary or not, possess the same problems that state certification has been found to have for it is, in general, being pursued for the same reasons.

Herbal certification in, as Abascal and Yarnell describe it, a "science-based, Western system of botanical medicine" is being promoted as a means to protect the consumer and raise the standards of the profession – things which certification (and even licensure) has generally been found incapable of doing. It is also being pursued, as Aviva Romm, the former American Herbalists Guild (AHG) president, puts it in a response to a Letter to the Editor in *HerbalGram* so that "those wishing to practice herbalism in increasingly public venues such as hospitals and clinics" can do so. It has to do with gaining a legally recognized status so that herbalists can continue to practice, with getting into and becoming a part of the American healthcare system of hospitals, referrals, and insurance. If it were only about protecting the people who need herbs for their medicine and making sure they have access to the best quality of health care, there are other

options available from which to choose, options that have actually been found to decrease prices, protect the public, and enhance health care.

While a careful reading of the writings by those arguing for certification reveals an escalating argument for consumer protection, there is, in fact, little harm from herbs, even in the hands of inexperienced practitioners. Herbalism is a very safe modality. In contrast to deaths from pharmaceuticals, deaths from appropriately taken herbal medicines are estimated to be one per year (22). Other herbal deaths, estimated to be approximately 50 per year, are mostly attributed to the improper use of ephedra (*Ephedra sinica*) as a weight-loss aid or energy booster (23). (Note: other substances have now taken its place and are causing the same outcomes. The popular use of ephedra – or any other substance – for weight loss and energy is a separate issue and one that should be dealt with through other, existing product-regulatory channels. It is unrelated to the regulation of herbal practitioners.) Again, this can be addressed by much less intrusive means than certification.

In their article, Abascal and Yarnell argue that government regulators and media opposition to herbs and herbalism will be quieted by a voluntary certification program. They cite no studies or historical circumstances that support these assertions. However, the actual nature of state governments indicates that this assertion is quite likely incorrect. Indeed, Richard Morrison, former Executive Director of the Virginia board of Health Professions and an expert on this issue, comments that "the existence of private certification has not stemmed the growth of licensure or government certification programs for allied health occupations" (16, p3).

For herbalists to practice in hospital settings, with doctors, accorded the same respect and practice rights, to easily receive referrals, to get into the healthcare system as an equal player

usually necessitates state recognition. As herbalism gains more visibility (much like midwifery or Traditional Chinese Medicine), each state will sooner or later feel compelled to deal with it as a practice category. Some states will keep it strongly illegal – much as many do now with naturopathic practice. Some will allow limited practice, some will allow only those licensed in some other category to practice it: acupuncturists, midwives, and so on. Some will legalize it through some form of registration, certification, or licensure. Trade regulation is a primary area of state control and oversight and the states control it jealously. Lobbyists in this field exist to convince state legislatures to allow uncontrolled practice by specific groups or conversely to pass licensure/certification laws enabling certain groups to practice or receive insurance. The assumption that the states will give up this power simply because a trade group has instituted voluntary certification is seemingly naive and historically inaccurate.

Proponents of voluntary certification want herbalists to be able to practice legally within the existing medical system. Nothing can allow that to happen except state-recognized status, for it is only the state that can grant the right of practice – especially since most existing medical practice statutes restrict exactly this type of work. Voluntary certification is therefore only a prelude to state regulation for herbalists. Once states begin to accept the certification of herbalists, only the certification proponents' approach of a "science-based, Western system of botanical medicine" is likely to be put forward as a model for herbal training.# The Botanical Medical Association (BMA) and the American Herbalists Guild, by authoring the certification process, put themselves in position to approach legislatures with this particular platform – indeed Yarnell's and Abascal's article insists that working with government regulators is a primary reason for certification. Because the certification system emphasizes Western scientific

approaches, the state legislatures that adopt it will tend to restrict practice to herbalists trained in that system; nothing in the proposed certification testing supports the practice, for instance, of wise woman or community folk practitioners who use alternate paradigms. Those who use other approaches will – based on how states have historically responded to this kind of industry certification – most likely be marginalized or denied the right to practice. To help prevent this it only makes sense, if all approaches to herbalism are to be protected, to begin with a certification that is not limited in scope.

There are very real problems inherent in proposals to restrict certification to only a "science-based, Western system of botanical medicine." There are numerous approaches to herbal practice in the United States – an obvious question is why this particular restriction? Why not choose a wise woman or even community herbalist approach for certification? Obviously, the reason is that a "science-based, Western system of botanical medicine" is somehow considered to possess more value, to more accurately describe and prepare practitioners for the treatment of disease, or, perhaps, to be more acceptable to those who control access to the existing healthcare system.

But a "science-based, Western" model is itself problematic as a primary model – is it really the most accurate approach or is it only one approach? There is a bias among groups seeking licensure in favor of awarding a special ontological status or fundamental reality to the elementary particles discovered by physicists and an attempt to emulate that orientation in other scientific and healing disciplines. There is an inherent belief that the understanding of the physicality and interrelationship of matter in its tiniest realms somehow connects people more successfully to reality than other approaches. A "science-based, Western system" is generally

assumed to get people closer to the way things "really" are and therefore to possess more value than other approaches. Underneath this belief is another, deeper assumption that the use of such a system will result in sufficient understanding to allow effective control over nature and disease. In consequence, it is given a kind of first ranking in the hierarchy of approaches to disease description and treatment (24-26). Other approaches, such as wise woman or folk herbalism, appear, from this perspective, more "fuzzy," less accurate, not as valuable or real. But does such physicalist reductionism really get us closer to reality? Consistent research over the past five decades increasingly indicates that it does not.

The danger in one school of herbalism designating "science-based Western botanical medicine" as that most proper for certification is that, through their parallel drive to certify educational training programs for herbalists, this one perspective will begin to eclipse other paradigms. There is also a very real danger of financial conflicts of interest. Historically, those who own the educational institutions or have financial stakes in them are also those who design the educational criteria for licensure or certification. Studies show that the exams designed for licensure or certification testing are often influenced by special interest groups within professional organizations, by education committees with financial interests in the types of tests designed, or by industry seeking to promote a specific approach to practice (16).

Herbalists at this juncture possess a unique opportunity to not only help heal those who come to them, but to also work for a cure for the medical system put in place a century ago by conventional/allopathic physicians. That system clearly possesses design flaws, as can be seen by a century of unexpected outcomes (such as the rapid rise of antibiotic resistant bacteria). There are alternate views of the nature of human and plant reality than those possessed by the

proponents of certification. The proposed certification of herbalists only takes into account one perspective, one that many people believe may be too limited. By certifying this one perspective, groups such as the BMA and AHG set it apart from other approaches as somehow more desirable and pertinent to practice in contemporary society. Certification itself imbues that orientation with more value – it cannot help but do so.

A number of practice advocates and states are beginning to use an alternative approach to licensure and certification, that is, to allow all people who want to work as healers to do so. Colorado and Washington State have both instituted this for psychotherapists; Minnesota has done so for anyone who wants to treat physical disease. The only requirement is that the individual practitioner register with the state, pay a fee, and disclose all of his or her training in written form to everyone coming to them. There is usually a board that is created to hear complaints from people who believe that they have been harmed. The areas of potential harm are clearly delineated in the legislation. They include such things as inappropriate sexual contact, leveraging the client into goods and services that they do not need, and not supporting them in leaving treatment when they express a desire to do so. These kinds of laws allow maximum exploration and development of healing modalities without one group deciding just what should or should not be part of competent training. They allow competition in the marketplace between competing types of healing. They protect the consumer. They do not set one approach apart from others by certifying its practitioners.

Licensure and certification movements, in their quest for legitimacy and market share, are, however unconsciously, emulating the model of practice regulation developed by the American Medical Association and the American Bar Association in the late nineteenth century

(16,27). The current inability to explore systems of regulation not rooted in medieval guild perspectives, as Friedman comments, "reveals the tyranny of the status quo and the poverty of our imagination in fields in which we are laymen, and even those in which we have some competence" (1). There are many approaches to healing; perhaps it is time to intentionally choose a kind of certification that embraces all of them. In that way, those who seek the unique healing that herbal medicines can bring will face the prospect, not of an impoverished, single approach, but a system of practice that contains within it the diversity of life that plants themselves possess.

* An *HerbalGram* reviewer commented on this point, noting: I would agree that in many cases the call comes from the practitioners themselves, but there is a clear public demand for regulation too. For example, the White House Commission on Complementary and Alternative Medicine Policy found that Americans want assurances that CAM practitioners are qualified (7). In a 1997 CTV/Angus Reid Group poll of 1,200 Canadian adults, 67 percent agreed with the statement that "The government should regulate alternative medicines and practices in the same way that they regulate other drugs and practices to make sure they are safe and really do what it is they claimed they will do" (8). Many witnesses before the Canadian Parliamentary Standing Committee on Health "were concerned at the lack of appropriate and consistent training and education for practitioners using natural health products. Because there is little standardization among provinces in their approaches to registering herbalists, homeopaths, naturopaths, consumers have no assurance of common standards of practice" (9). In Britain as well, a parliamentary committee found that "high quality, accredited training of practitioners in the

principal CAM disciplines is vital in ensuring that the public are protected from incompetent and dangerous practitioners"(10). Thus, there is ample evidence that consumers do want legislation protecting them from inadequately trained practitioners.

I responded thus: Canadian activity has no place in this discussion. I could just as well cite Mexican population desires and concerns in response and it would have as much relevance. The reviewer cites the WHC on CAM, which "found that Americans want assurances that CAM practitioners are qualified." This statement actually means nothing. Having lobbied extensively for five years on just these kinds of issues, I am well aware that these kinds of statements by committees are highly suspect, especially in the United States in this area of practice. How was the question worded? How many people were interviewed? What were the biases of the questioners? Who conducted the survey?

Nevertheless, unlike other areas of concern, such as inappropriate sexual contact between priests or psychotherapists and clients, where a clear clarion call for reform exists, such a clarion call does not exist here. Other than by competing medical professions or from within the herbal community itself, there is no organized political activity calling for regulation of herbalists on the part of consumers in order that they might be better protected from harm. For the reviewer to be accurate about this concern here, clear evidence of a consumer group (containing, as it always will, harmed members) actively lobbying for herbalist regulation would need to be provided.

†A reviewer prior to the publication of this article asked what jurisdiction does a regulatory board have if the practitioners are not regulated? The only recourse would be bad publicity and/or civil litigation.

I responded thus: In this approach to protecting the consumer, the regulatory boards cannot interfere with who practices or what they practice, but can only intervene if there is a complaint of harm. While there are problems, as usual political ones from competing groups who influence board policy and actions, in how the board in Colorado fulfills its function, it has a great many powers at its command (e.g., prohibiting practice or requiring certain courses of study) in order to protect consumers in the event of complaints of harm. The board does not regulate practice, but only acts to protect consumers in event of complaint and a subsequent finding that harm actually did occur.

‡ Another reviewer prior to publication commented: "clearly there are problems with the delivery of conventional health care and the toxicity of conventional drugs. However, to equate this with a need for deregulation is a non sequitur. What evidence shows that this would not make a bad situation much worse?"

I replied thus: deregulation is not the same as not protecting the public, which the reviewer here seems to equate with deregulation. I make a different point, arguing the benefits of deregulation with strong consumer protection – stronger protection actually than that which is currently in place. Significant evidence shows that medical technology has little to do with the increase in the average life span of Americans that most studies show – authors generally lay it at the feet of better sanitation more often than not. There is evidence that the leading cause of

death in 1900 was medical intervention; I don't think the situation has changed all that much: medical errors, deaths from antibiotic resistant bacteria, pharmaceutical side effects, and other related factors, when taken together, could conceivably put medicine as the leading or second leading cause of death in the United States. There is, however, not a lot of serious study in this area. This is not to say that medicine is not a crucial component of any healthcare system. Rather that the same rigorous scientific inquiry into and evaluation of medical outcomes and impacts that are applied to other systems must be applied to conventional medicine; it makes no scientific sense to judge medicine by its successes and all other systems by their failures. It, too, must be judged by its successes and failures. The current drive for medical reform, which does enjoy a strong consumer base, is an attempt to develop other approaches that can alleviate the current levels of medical harm.

§ Another *HerbalGram* reviewer commented: the enhancement of practitioner competence is proportional to the amount of training they receive, so, yes, if they get only three hours of instruction in herbal medicine, they cannot learn very much. At least CEU instruction can create an awareness of some of the issues and help them to learn where to go for further information as the need arises.

I replied thus: the statement about practitioner competence being proportional to the amount of training is speculation and belief, not something supported by study or trial. In fact, comprehensive studies in the field of psychotherapy have shown that there is no clear relationship between competence and training. In fact, some studies have shown that the more training a practitioner possesses, the worse their competence. This is why both Colorado and

Washington State no longer require any training to work as a psychotherapist. I would suggest that there may be factors much more important than amount of training in producing competence in herbalists (and psychotherapists), a calling to the profession being one. Intelligence another, integrity another, and empathy another. Zero raised to the nth power is still zero; training in and of itself will not produce competence.

Another *HerbalGram* reviewer commented: certification of naturopathy and Traditional Chinese Medicine (TCM) practitioners is already occurring, and other CAM modalities are becoming more accepted. American, Canadian, and British researchers and practitioners from many different conventional and CAM healthcare systems held an "International Workshop on Research Methods for the Investigation of CAM Whole Systems" (Vancouver, BC, October 20-21, 2002) to deal with questions of appropriate types of research on CAM systems to facilitate greater mutual understanding, cooperation, and collaboration.

I replied thus: TCM is becoming more accepted because a number of its practitioners went to court to force legal recognition. Because of a fairly unique and landmark decision in a Texas case, wherein the judge found that the law in question did not actually support the health, safety, and welfare of the people of the state of Texas (all laws must pass this primary test to be enacted by a state legislature) to prohibit the practice of acupuncture by a TCM practitioner with decades of training and allow it of a physician with a weekend's experience, a legal precedent was established that, along with other court cases in other states, made it clear that the states could not restrict practice in this particular field. That the system in question is highly formalized, from another culture, very old, and that it is used by a large Asian immigrant

population in this country also supported its emergence as a unique discipline. However, without aggressive litigation on the part of alternative practitioners TCM would not be as legal as it is. In spite of this it is not difficult to find acupuncture, herbs, chiropractic, and other alternative healing modalities identified as quackery or dangerously unproven pseudoscience in medical literature or on medical internet sites. See, for example, Quack Watch, run by a medical doctor who has been extremely active on a number of state medical boards n trying to protect the public from acupuncture and other non-allopathic modalities. Please also note that midwifery and chiropractic also had to go through this same legal process – not once but many times – in order to establish the legal right to practice.

(Despite the hostility of the reviewers and their typically reductionist stance, the article did appear.)

References:

1. Friedman M. *Capitalism and Freedom*. Chicago: University of Chicago Press; 1962.

2. Shimberg B. Occupational Licensing: A Public Perspective. Princeton: *Educational Testing Service*; 1980.

3. Shimberg B. The relationship among accreditation, certification and licensure. *Federation Bulletin: The Journal of Medical Licensure and Discipline* April 1984:99-116.

4. Shimberg B. Regulation in the public interest: myth or reality? [monograph] *Resource Briefs*. Lexington (KY): Council on Licensure, Enforcement and Regulation; 1991.

5. Clarkson KW, Muris T. The Federal Trade Commission and occupation regulation. In: Rottenberg S, ed. *Occupational Licensure and Regulation*. Washington D.C.: American Enterprise Institute for Public Policy Research; 1980. p. 107-41.

6. Stigler G. The theory of economic regulation. *Bell Journal of Economics and Management* Science 1971 Spring;24:3-21.

7. White House Commission on Complementary and Alternative Medicine Policy. Final Report. Washington, DC: White House Commission on Complementary and Alternative Medicine Policy; March 22, 2002. Executive summary. Available at <http://www.whccamp.hhs.gov/es.html>. Accessed May 10, 2003.

8. CTV/Angus Reid Group. Use of alternative medicines and practices. September 1997 Available at <http://www.angusreid.com/old/pressrel/alternat.htm>. Accessed May 10, 2003.

9. Volpe J. Natural Health Products: A New Vision. Report of the Standing Committee on Health. Ottawa, Ontario, Canada: Standing Committee on Health; November 1998. Available at <http://www.parl.gc.ca/InfoComDoc/36/1/HEAL/Studies/Reports/healrp02-e.htm>. Accessed May 10, 2003.

10. The United Kingdom, Parliament, House of Lords, Science and Technology Committee. Session 1999-2000 Sixth Report, HL 123: Complementary and Alternative Medicine.

11. Contemporary Studies Project. Regulation of health personnel in Iowa: a distortion of the public interest. Iowa Law Review 1972;57:1006.

12. Rose J. Occupational licensing: a framework for analysis. *Arizona State Law Journal* 1979:189-202.

13. Cox C, Foser S. The Costs and Benefits of Occupational Regulation. Washington D.C.: Bureau of Economics, Federal Trade Commission; October 1990.

14. The Colorado Department of Regulatory Agencies. The Colorado Mental Health Licensing Statutes: Sunset Review, Denver, CO; June 1991.

15. Feldman R, ed. *American Health Care: Government, Market Processes and the Public Interest*. Somerset, NJ: Transaction Publishing; 2000.

16. Morrison R. Webs of Affiliation: The Organizational Context of Health Professional Regulation. 2000. Available at <www.clearhq.org/morrison_brief.htm>. Accessed May 10, 2003.

17. Svorny S. *Does physician licensing serve a useful purpose?* [monograph] Oakland, CA: The Independent Institute; July 10, 2000. Available online <www.independent.org/tii/news/000710Svorny.html>. Accessed May 10, 2003.

18. Kohn L, Corrigon J, Donaldson M, eds. *To Err is Human: Building a Safer Health Care System*. Washington, DC: National Academy Press; 1999.

19. Lazaren J, Pomeranz B, Corey P. Incidence of adverse drug reactions in hospitalized patients: a meta-analysis of prospective studies. *JAMA* 1998;279(15):1200-5.

20. Abascal K, Yarnell E. Certifying skill in medicinal plant use. *HerbalGram* 2001;52:18-9.

21. Romm A. AHG response [letter]. *HerbalGram* 2002;54:77, 72.

22. Brevoort P. The booming U.S. botanical market: a new overview [Table 18. Botanical Safety]. *HerbalGram* 1998;44:45.

23. Duke JA. *The Green Pharmacy: The Anti-Aging Prescriptions*. Emmaus, PA: Rodale Press; 2001. p. 24.

24. Rorty R. Being that can be understood is language. *London Review of Books* 2000 March 16;22(6):23-5.

25. Gadamer H-G. *Reason in the Age of Science*. Cambridge, MA: MIT Press, 1983.

26. Buhner SH. *The Lost Language of Plants: The Ecological Importance of Plant Medicines to Life on Earth*. White River Junction, VT: Chelsea Green; 2002.

27. Begun JW, Lippincott RC. *Strategic Adaptation in the Health Professions: Meeting the Challenge of Change*. San Francisco: Jossey-Bass; 1993.

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