

## LEARNING FROM ORGANIC AGRICULTURE

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**M**edicine must be gentle on the earth to be truly good for people. Organic management restores, maintains, and enhances ecological harmony rather than creating a steady dependency on artificial pesticides and fertilizers. So successful is this technology that the organic food industry is the fastest growing sector of the commercial food system, increasing by more than 20% a year.<sup>1</sup> Of all produce sold in the United States, 5.5% consist of organic fruits and vegetables.<sup>2</sup> Glancing at the news during the month of May reveals how significantly organics are growing in popularity: “Organic cotton product sales have increased about 35% annually worldwide, and 55% a year in the US.”<sup>3</sup> “Organic Lawn Care Movement Spreading Across North America.”<sup>4</sup> “UK Study Shows Organic Farms Produce 32% More Jobs Than Conventional Farms.”<sup>5</sup> and “Wall Street: Organic Food is Going Mainstream.”<sup>6</sup> Yes, large corporations such as WalMart—for better or for worse—are rapidly invading the organic agricultural industry. It is profitable and healthier for the environment.

What medicine as an industry might learn from organic principles is worth considering. In 1971, a handful of organic farmers in Maine formed an organization called the Maine Organic Farmers and Gardeners Association (MOFGA). In 1973, 50 farmers formed the California Certified Organic Farmers (CCOF). By 1979, CCOF had pushed through the first legislation in the country defining organic standards. Today, there are over 3,000 certified organic growers in the United States.<sup>1</sup>

What distinguishes organic agriculture from industrial farming? Organic agriculture promotes and enhances biodiversity rather than creating catastrophic environmental and health impacts. The biological life cycles of plants, animals, and soil provide the basis for the nutritional needs of the farm, rather than artificial fertilizers. Minimal use of large-scale machinery is

involved, favoring materials local to the farm itself. Organic management restores, maintains, and enhances ecological harmony rather than creating a steady dependency on artificial pesticides and fertilizers.

Is not the same goal of medicine to restore, maintain, and enhance the ecological harmony of people? Can this be done without chemically produced drugs and superfluous food supplements? Each year, ever increasing numbers of consumers commit to eating organically grown food. If they also were committed to supporting medicine with similar values, our health-care system might allow people to live within the bounds of nature, improving the quality of life on earth.

The rationale for ecologically sustainable medicine (ESM), which is central to the concept of green healthcare, offers a vision of medicine that is considerate of the earth—good for people and the environment. ESM not only improves medicine and health, it also encourages sound environmental stewardship by promoting eco-friendly medical choices.

The essential values of organic agriculture (ie, organic integrity) encompass three key elements: environmental stewardship, accountability, and a fair pricing system, according to Michael Sligh, the director of Sustainable Agriculture at the Rural Advancement Foundation International-USA.<sup>1</sup> Together, these three attributes drive an alternative food system that is accessible to all people. Medicine can also respect these three values as essential to physical, spiritual, and personal well-being.

*Environmental stewardship* in agriculture values the land itself as well as the life we share with other beings—organic and inorganic—in the natural environment. By supporting healthy biological activity while promoting and enhancing biodiversity, environmental stewardship shifts away from artificial ingredients, preservatives, genetically modified organisms, and radiation as well as artificial pesticides and

fertilizers. When farmers think of themselves as environmental stewards, their practices improve biogeochemical life cycles of the land and enhance the output and quality of farm-grown food. As environmental stewards, farmers provide healthier natural habitats for local flora and fauna, improving the larger ecosystem of which the farm is an integral part. Such an approach also establishes an economic balance for local communities.

The medical equivalents of chemical pesticides and fertilizers are pharmaceutical drugs and commercially derived nutritional supplements. A medicine that reduces habitual dependence on drugs and dietary supplements promotes land stewardship by encouraging the natural life cycle of people and communities, both urban and rural. A shift to organically produced, local medicine improves the overall quality of life locally and regionally, enhancing personal and environmental wellness while providing economic benefits.

Sustainable medical practices that are good for people and the environment support individuals in relearning how to live within natural life cycles. For example, it can help people make informed decisions on such issues as the proper role of sunlight, air, and water in maintaining optimal health.

Sustainable medicine initiates lifestyle choices that support healthy physical practices, including movement and exercise, proper occupational habits, appropriate balance between activity and relaxation, as well as such important mind-body practices as meditation and guided imagery. ESM teaches stewardship by reinforcing precaution through personal care. Taking greater responsibility for one's health has far-reaching implications for individuals and the local environment. Consumer behavior has a significant impact on the environment. Using sustainably produced products in homes and workplaces, “greening” public buildings, and cultivating

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and maintaining parks and open spaces are choices for a healthier world. Likewise, practicing precaution in medicine is a powerful tool for restoring the balance between contemporary medicine and the laws of nature.

The use of artificial ingredients, preservatives, genetically modified organisms (GMO), and radiation is frowned on in the organic movement. One wonders why healthy consumers have not demanded a similar shift in their choice of medicines. A large number of people have voiced a negative reaction to eating genetically modified organisms. Yet scarcely, if ever, does that same public object to the growing use of GMOs in medicine, which has occurred for nearly a century! GMOs continue to form the basis of many new pharmaceutical drugs. Examples include vaccines and derivatives of stem cells. The natural medicines of ESM use no artificial ingredients, preservatives, genetically modified organisms, or radiation.

*Accountability*, the second trait of organic integrity, or lack of accountability, has been the subject of scores of articles and books in the medical pharmaceutical industry.<sup>7</sup> The pharmaceutical industry (which, incidentally, often also produces pesticides and fertilizers) generally fails to take responsibility.

We have come to assume that good medicine requires randomized clinical trials (RCT), providing us with the “best” proven medicine. However, pharmaceutical companies at times “hijack” the process, suppressing negative results during drug testing. Contradictory claims or long-term negative consequences—such as the reluctantly acknowledged toxicities of VIOXX (Merck & Co. Inc., Whitehouse Station, NJ) or Phen-Fen (Wyeth Pharmaceutical, Madison, New Jersey)—appear years later. We have grown accustomed to finding out years after the fact that original research omitted or overlooked pertinent information. Universities, pharmaceutical companies, and the Food and Drug Administration (FDA) are intertwined in a dance of shared power that yields inconsistent precautionary value.

RCTs are not the only way to achieve accountability. Costs might be a simple precautionary factor. Heart bypass surgery averages \$60,000 and balloon angioplasty \$30,000 per patient. These expenses are

largely covered by insurance companies and Medicare. However, Dean Ornish’s Program for Reversing Heart Disease, with an estimated cost of \$8,000 per person annually, is seldom covered by insurance, even though Dr. Ornish has proven in quality clinical trials that the program is 80% successful in meeting its objectives.<sup>8</sup> In general, nutritional and lifestyle practices found in mind-body medicines and other forms of ESM are more modest in cost and easier to use. Occupational and physical therapies are often more practical and less costly than long-term drug dependence. Yet there is little economic accountability to address special interests and medical hegemony.

A sustainable medical system must promote healthcare that is good for people and the environment. Why? Because the environment is a significant determinant of human health. Without clean air, water, and food, maintaining good health is elusive.

Accountable medicine begins with healthy environmental choices. By choosing ESM practices first, costs may be contained, saving expensive medical technologies for difficult cases. The savings could be enormous. Programs that include one hour a day of moderate exercise three times a week have been proven to reduce the onset of chronic disease by 2% a year<sup>9,10</sup> or, by extension, 10% in five years or 50% in 25 years! Improving public health and providing higher quality services to the underserved could be much easier with an accountable medical system.

*A fair pricing system*, the third element of Michael Sligh’s organic integrity, requires examination of the most difficult obstacle facing green healthcare and ESM: the current system of healthcare reimbursement based on privately owned insurance companies or the federally funded program Medicare. It has not always been this way, and many European countries do not use this system. Examination of the costs does not support this approach. Americans spend over 15% of the nation’s gross national product on healthcare, twice as much as most European countries.<sup>11</sup> Yet we are not twice as healthy (in fact in many ways we are less healthy!). The immense economic investment in medical technology is not yielding corresponding healthy results.

The custom of copay in private insurance, which later led to managed care, was developed in the 1940s and 1950s. Workers’ unions successfully leveraged workplace safety creating a healthcare entitlement—health insurance. As our society has become increasingly affluent and more risk averse, medical insurance continues covering larger portions of health services without necessarily questioning the overall value of such expenditures.

What is the actual cost of the health insurance entitlement? The subject is rarely discussed. Countless people say they cannot afford to see an acupuncturist, a chiropractor, or a physical therapist. Can we afford *not* to? Is medicine that keeps us healthy not worth the investment? Our insurance system as presently constructed is a “sick care” medical system. Expenses are covered and benefits provided only if you are ill. With marginal regard for the outcome, physicians and hospitals are paid for services performed in response to health malaise. In traditional Chinese medicine, the healer was only paid when he or she kept the patient healthy. When someone was sick, medical service was provided free! Today in America, costs to the community and to the environment are seldom factored into the fiscal equations of medical decision making, thereby creating a skewed picture of actual costs.<sup>12</sup>

A fair pricing system in medicine would include the “externalized costs” of production and disposal of medicine—the actual footprint. Our extensive investment in pharmaceutical medicine requires that Americans blindly participate in an inefficient consumption of huge resources that degrade the environment. Measuring the *real* costs to the environment of medicine could significantly alter our assessment of the benefits of healthcare, shifting the emphasis to more sustainable nonpharmaceutical practices.

If individuals were confronted with the actual full costs of medical decisions, more affordable (ie, sustainable) choices might be the outcome of necessity. Perhaps if insurance copayments were higher, this would happen.

By comparison, most complementary therapies—such as nutritional and exercise programs—seem much more practical when the real costs of mainstream medicine are passed on to the user. In the ex-

ample of Dr. Ornish's system, four hours a week of nutritional counseling, yoga, exercise, a home-cooked meal, and meditation over a period of eight years equals the price of one single bypass surgery! Studies fail to show that bypass surgery adds eight years of good health to the patient's life; rather, it prevents imminent mortality.

Sustainable medical practices are cost-effective because they are local and consist primarily of hands-on services. They offer communities intangible benefits as well, through improved face-to-face interactions. Similar to expenses not covered by insurance, sustainable medical practices seem more costly because they are embedded in a system that subsidizes technological innovation, pharmaceutical marketing, and the very high expense of centralized hospital services.

The shift to green healthcare and ESM brings a fairer pricing system—a local service economy that keeps money circulating within the community rather than dispersing it to global corporate manufacturing conglomerates. Accountability reinforces economic stability by returning business to a scale that positively reinforces local community values. Environmental stewardship, applied to human interactions in medical care, reinforces one's interrelatedness to the fragile planet on which we all live. By enhancing our competence in nature and improving the health of individuals, community, and place, a positive outcome for all life as we know it may be realized.

Perhaps the most important value medicine can learn from organic agriculture is how a handful of well-intentioned people successfully reformed a huge industrial

manufacturing sector of the economy: the food industry. The challenge for green healthcare and ESM is to boldly show that same leadership. In offering healthcare shaped by a sound environmental ethic—one that “improves the quality of life and social justice for those participating”—green healthcare may enhance the health of all who participate while providing the vision of a system of medicine that is responsible, altruistic, and open.

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