Integrating Complementary & Alternative Therapies with Conventional Care

The Convergence of Complementary, Alternative & Conventional Health Care:

Educational Resources for Health Professionals

This publication is one in a series of educational resource materials on complementary and alternative health care issues published by the Program on Integrative Medicine, University of North Carolina at Chapel Hill entitled:

The Convergence of Complementary, Alternative & Conventional Health Care:

Educational Resources for Health Professionals

Titles in the series include:

Understanding the Convergence of Complementary, Alternative & Conventional Care in the United States

Concepts of Healing & Models of Care

Evidence-Based Medicine & Complementary & Alternative Therapies

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Evaluating Information Sources for Complementary & Alternative Health Care

Information Sources for Complementary & Alternative Therapies

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Integrating Complementary & Alternative Therapies with Conventional Care is one of a series of publications entitled *The Convergence of Complementary, Alternative & Conventional Health Care*, that has been developed as an educational resource for health professionals by the Program on Integrative Medicine, University of North Carolina at Chapel Hill.

These publications respond to the many questions raised as conventional health care practitioners encounter widespread and increasing use of complementary and alternative therapies. The health care "system" today is, in fact, a dynamic, rapidly changing world of multiple healing modalities that overlap and interact on many levels. Publications in the series *The Convergence of Complementary, Alternative & Conventional Health Care* highlight many of the key issues facing health professionals today—including assessing information, effectiveness, and integration of conventional, complementary, and alternative health care.

Although the convergence of multiple health care models is not in doubt, there are many unanswered questions about *how* they will come together. This publication explores the issues raised as conventional health care providers move toward integrated practice, and describes a variety of options for doing so.

The Convergence of Complementary, Alternative & Conventional Health Care was developed with support from the National Center for Complementary and Alternative Medicine (NCCAM), National Institutes of Health.

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preface

Thomas Edison once predicted, "The physician of the future will give no medicine, but will interest his patients in the care of the human frame, in diet and in the cause and prevention of disease." While his vision has not yet materialized, recent trends in health care indicate a shift in that direction. Although it is likely that most 21st century health care providers will continue to "give medicine" as well as prescribe other forms of high-tech care, there are signs that these practices will more often occur in a holistic context that encourages self-care and supports self-healing and wellness.

Health-care practice in the future — perhaps the very near future — could embrace and integrate a comprehensive array of therapies and healing approaches, drawing on both the technological advances of contemporary medicine and the modern versions of the diverse and sometimes ancient practices and concepts of complementary and alternative medicine (CAM). This potential convergence and integration of the different cultures of conventional and complementary care raises many important questions for contemporary health care providers. What is "integrative medicine"? And what are its implications for conventional health professionals in terms of quality of care, training, resources, financial dynamics and legal issues?

Our purpose is to begin to answer these and other questions and in so doing, to provide encouragement and support to those practitioners now ex-

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ploring this new approach to health care. Specifically, we hope to assist readers to:

- Understand the factors supporting the integration of complementary and alternative practices with conventional health care;
- Appreciate the potential benefits of an integrative approach to care;
- Understand the factors that present barriers to change and limit options for integrating care;
- Become aware of different contemporary forms of integrative care;
- Learn about steps towards integrative care for the individual practitioner.

In the final analysis, the path to new, integrated models of care will be shaped through a partnership effort between health care practitioners and their patients as well as through the evolving forces within the current medical system and society itself. If all comers contribute with confidence, openness, and a spirit of seeking the best of health care, improved health care services should follow.

A note about the terminology used here. In recent years, the term "CAM" has come into common usage to describe, in the words of the National Center for Complementary and Alternative Medicine, "*a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine*." These therapies include highly specialized methods such as biofeedback, millennia-old practices such as meditation, and comprehensive traditional healing systems such as Traditional Chinese Medicine. They encompass a wide variety of skills and training, with varying certification and licensure requirements.

Despite its convenient brevity, the acronym CAM has some unfortunate implications. It suggests, for example, a homogeneity among the practices included under the umbrella term—something that is not at all true. It also implies a clear and complete distinction between conventional and CAM systems of care. That also is inaccurate. We therefore use the term CAM sparingly, as shorthand for that "group of diverse medical and health care systems . . ." where the emphasis is on the word "diverse."

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"The public is using alternative therapies on a broad basis. To best serve them, health care professionals must learn the good and bad points of these therapies. Enlightened professionals will work with informed patients to integrate the most useful and proven therapies into their standard practice. In such a setting, patient satisfaction is bound to increase. By applying scientific rigor in evaluating the alternative therapies, we will protect our patients while offering them the best of care: the integrative care mode."

—Victor S. Sierpina, MD

Mainstream medicine is changing. The biomedical conceptual framework that evolved and ultimately defined the American health-care system in the 20th century continues to predominate. However, there is evidence that other therapeutic modalities, with different conceptual frameworks, are beginning to compete with this dominant model (Eisenberg, et al., 1993; Eisenberg, et al., 1998; Eisenberg, et al., 2001). A number of trends suggest that conventional medicine may yield in the 21st century to an increasingly pluralistic health-care system, in which different models of care may co-exist (Barrett, 2003).

However, the mere coexistence of different healing modalities does not produce an integrative system of care. Indeed, within the current health care system, patients and providers experience problems when multiple—but uncoordinated—healing approaches are used (Markman, 2002). A commonly cited example is the potential for adverse herb-drug interactions that may occur as patients mix herbal and pharmaceutical treatments without the awareness or guidance of health care providers (Ang-Lee, Moss, & Wuan, 2001; Piscitelli, 2000; Piscitelli, Burstein, & Chaitt, 2002). Other problems include poor communication between providers and patients, issues about credentials, training, and licensure of providers and excessive costs of multiple, uncoordinated treatments (Cohen & Eisenberg, 2002).

THE FUTURE OF CAM IN WESTERN MEDICINE

A recent trend analysis provides the following forecast for the future of CAM:

- "CAM therapies will become major tools for health promotion and disease prevention;
- "CAM will be integrated into conventional medical protocols;
- "Some CAM providers will become recognized as primary care providers;
- "Conventional . . . providers will increase the use of alternative therapies;
- "Providers that take a role in creating healthy communities will gain a competitive edge."

(Bezold, 2001)

"COMPLEMENTARY" AND "ALTERNATIVE" – DEFINING TERMS

In 1991, the Office of Alternative Therapies of the National Institutes of Health was created to investigate the increasing use of alternative therapies in the U.S. In 1997, this office was designated a Center, with an enlarged research budget.

The National Center for Complementary and Alternative Medicine (NCCAM) defines "CAM" as "a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine." These range from highly specialized methods (e.g., biofeedback) and ancient practices (e.g., meditation); to comprehensive traditional healing systems (e.g., Ayurveda). NCCAM categorizes these widely varied alternative therapeutic modalities into five broad areas:

- Alternative medical systems (Traditional Chinese Medicine, Ayurveda, homeopathy, naturopathy)
- Mind-body interventions (biofeedback, hypnosis, mindfulness meditation, yoga, guided imagery)
- Biologically based therapies (diet, supplements, herbals, vitamins, detoxification, elimination)
- Manipulation and body-based methods (massage, chiropractic, osteopathy, Feldenkrais, Alexander Technique)
- Energy therapies (acupuncture, Reiki, magnets, therapeutic touch)

While somewhat arbitrary, these categories provide a structure for considering the scope and methods of alternative and complementary approaches. Some therapies fit into more than one category.

(www.nccam.nih.gov)

Increasingly, the term "integrated" or "integrative" describes medical practices that, while retaining many of the characteristics and strengths of biomedicine, also embrace the more holistic concepts and methods of complementary and alternative practices (Rakel & Weil, 2003). A "healthy," effective system of integrative care will require a conscious, thoughtful approach to combining different healing modalities. Just what new models of care will emerge and how quickly they will evolve is unclear (Barrett, 2003).

CAM use in the united states

A major trend over the last four decades has been the steady increase in U.S. consumers' use of complementary and alternative therapies, including acupuncture, chiropractic, energy healing, herbal medicine, homeopathy, and massage (Eisenberg, et al., 1993; Eisenberg, et al., 1998; Druss & Rosenheck, 1999; Barnes, et al., 2004). This trend is likely to continue (Kessler, et al., 2001). From 1990 to 1997, annual visits to alternative practitioners grew from 470 million to 629 million (Eisenberg, et al., 1998). Those estimated 629 million visits to complementary care providers far exceeded the 386 million visits made to all U.S. primary-care physicians that year, and out-of-pocket expenditures for CAM therapies were an estimated $27 billion, comparable to those of all U.S. primary care providers.

Significantly, complementary and alternative modalities are often used in addition to, and not as replacements for, conventional care (Eisenberg, et al., 1993; Eisenberg, et al., 1998). One can argue that the impetus for new, integrated models of care comes from consumers themselves, who are using both forms of care, often for the same condition (Singer, 2001).

One national survey of the use of CAM (Eisenberg, et al., 1998) found that the highest use was for back problems, allergies, fatigue, and arthritis; other conditions included headaches, neck problems, hypertension, sprains or muscle strains, insomnia, pulmonary problems, dermatological disorders, digestive disorders, depression and anxiety (*see Table 1 on page 3*). Another survey found frequent CAM use for psychological problems, pain, back problems, musculoskeletal disorders, chronic illness, anxiety, headaches, and smoking cessation (Astin, 1998).

According to the Eisenberg, et al., (1998) survey, the most frequently used therapies were relaxation techniques (16 percent), herbal medicine (12 percent), massage (11 percent), and chiro-

practic (11 percent). Less commonly used were folk remedies, energy healing, homeopathy, hypnosis, biofeedback and acupuncture. This survey also found that CAM use was higher among women (49 percent) than men (38 percent); less common among African Americans (33 percent) than other racial groups (45 percent); and highest among the 35-49 year age group (50 percent) compared with older (39 percent) or younger (42 percent) age groups. Greater use was reported among those with college educations (51 percent) than with no college education (36 percent); and with annual incomes above $50,000 (48 percent) than with lower incomes (42 percent).

consumer rationale for CAM use

The growing numbers of CAM users tell only part of the story of change in the health care system. Consumers' motives for seeking alternative care reveal a great deal about why the numbers are growing and suggest the consumer priorities that are likely to influence the shape of future health care models.

Many cultural and individual factors influence choice of health care services, including gender, age, geography, education, and race (Bair, et al., 2002). Also important are the health conditions for which consumers seek care. Research indicates that those suffering from chronic, non-life-threatening health problems tend to be the heaviest users of CAM (Bausell, Lee, & Berman,

TABLE 1
USE OF CAM FOR PRINCIPAL MEDICAL CONDITIONS BY US ADULTS, 1997

CONDITION	PERCENT WHO REPORTED CONDITION	PERCENT WHO USED CAM FOR CONDITION IN PAST 12 MONTHS*	PERCENT WHO SAW CAM PROVIDER FOR CONDITION IN PAST 12 MONTHS	PERCENT WHO SAW MD AND USED CAM THERAPY FOR CONDITION IN PAST 12 MONTHS*	PERCENT WHO SAW MD AND CAM PROVIDER FOR CONDITION IN PAST 12 MONTHS	MOST COMMONLY USED THERAPIES FOR THE CONDITION
Back Problems	24.0	47.6	30.1	58.8	39.1	Chiropractic; massage
Allergies	20.7	16.6	4.2	28.0	6.4	Herbal; relaxation
Fatigue	16.7	27.9	6.3	51.6	13.1	Relaxation; massage
Arthritis	16.6	26.7	10.0	38.5	15.9	Relaxation; chiropractic
Headaches	12.9	32.2	13.3	42.0	20.0	Relaxation; chiropractic
Neck Problems	12.1	57.0	37.5	66.6	47.5	Chiropractic; massage
High Blood Pressure	10.9	11.7	0.9	11.9	1.1	Megavitamins; relaxation
Sprains or Strains	10.8	23.6	10.3	29.4	15.9	Chiropractic; relaxation
Insomnia	9.3	26.4	7.6	48.4	13.3	Relaxation; herbal
Lung Problems	8.7	13.2	2.5	17.6	3.4	Relaxation; spiritual healing; herbal
Skin Problems	8.6	6.7	2.2	6.8	0.0	Imagery; energy healing
Digestive Problems	8.2	27.3	9.7	34.1	10.7	Relaxation; herbal
Severe Depression	5.6	40.9	15.6	40.9	26.9	Relaxation; spiritual healing
Anxiety Attacks	5.5	42.7	11.6	42.7	21.0	Relaxation; spiritual healing
WEIGHTED AVERAGE		28.2	11.4	31.8	13.7	

(adapted from Eisenberg et al., 1998)

*includes provider and self-treatment

PRINCIPLES OF HEALING EMPHASIZED IN MANY COMPLEMENTARY AND ALTERNATIVE THERAPIES

While a disparate array of alternative therapies and healing systems fall under the umbrella term "CAM," what they typically have in common are fundamental principles of health and healing. These principles are not unique to CAM (conventional medicine subscribes to some), nor do all CAM therapies embrace them equally. Taken together, however, they provide a framework for understanding CAM approaches to healing that contrast with the biomedical model of care. Many CAM therapeutic systems emphasize some or all of the following principles to a greater degree than conventional medicine. Effective integration of CAM and conventional care must rest on acknowledgment, appreciation, and application of these principles in a patient-centered context.

- PROMOTE THE BODY'S SELF-HEALING ABILITIES (This is perhaps the most important principle, influencing all others.)
- EMPHASIZE EFFECTIVE COMMUNICATION BETWEEN PATIENT AND HEALER, which builds trust and promotes integration.
- EMPHASIZE SELF-CARE and empowerment of the patient in the healing process.
- RECOGNIZE MIND, BODY, AND SPIRIT as interactive and inseparable.
- ADDRESS UNDERLYING CAUSES OF ILLNESS——including emotional, environmental, and spiritual factors—rather than just its clinical manifestations.
- PREVENT ILL HEALTH by remaining in balance and harmony with the psychosocial and physical environment.
- ENHANCE WELLNESS with optimal diet, exercise, and a reduced-stress lifestyle.
- INDIVIDUALIZE TREATMENT to the particular patient, rather than focusing on the disease condition.
- EMPHASIZE THE USE OF NATURAL NON-PHARMACEUTICAL SUBSTANCES or non-surgical techniques in the care of the patient.
- APPRECIATE THE ELECTROMAGNETIC AND ENERGETIC NATURE OF THE HUMAN ORGANISM and the importance of vitality in healing.
- APPRECIATE THE IMPORTANCE OF INTUITIVE AWARENESS and the individual's unique experiences in determining pathways to healing.
- ACKNOWLEDGE THE HEALING JOURNEY and that the return to wholeness can be a gentle and gradual, developmental process.

(adapted from Gaylord & Coeytaux, 2002)

2001). Many reports conclude that the majority of CAM users employ CAM as an adjunct to mainstream medicine for prevention rather than treatment of illness (Druss & Rosenheck, 1999; Ernst, 2001).

Additionally, research investigating the motives of CAM users suggests that, while many consumers still value and rely on conventional care, they also appreciate many of the characteristics and qualities of CAM care that are not typically found in mainstream medicine—including a holistic approach to healing, personal attention, cultural sensitivity, lower cost, and fewer negative side effects (Astin, 1998). These characteristics or "principles" include beliefs and practices shared by many complementary and alternative modalities (*see box, left*).

provider rationale for cam use

Like their patients, mainstream health care practitioners are exploring non-conventional health and healing options in greater numbers. A primary motivation is desire to communicate more effectively and be more knowledgeable in interactions with their patients who are coming to them with questions about complementary and alternative therapies.

A second motivation is perceived limitations of conventional health care (Starfield, 2000; Astin, Ariane, Pelletier, Hansen, & Haskell, 1998; White, Resch, & Ernst, 1997; Crock, Jarjouja, Polen, & Rutecki, 1999). Some cite dissatisfaction with the fast pace and pharmaceutical focus of conventional care as a reason for exploring CAM. The dramatic statistics on medical errors and pharmaceutical risks have alerted providers to the need for concern about the safety of conventional medical practices (Lazarou, Pomeranz, & Corey, 1998). Deaths from medical errors in 1997 exceeded those from motor vehicle accidents, breast cancer, AIDS, or workplace injuries (Institute of Medicine, 1999).

Another strong motivator is the search for effective treatments for diseases that do not respond well to conventional care. For example, a growing list of systemic disorders (such as fibromyalgia) and lifestyle-related health problems frequently fail to respond to the treatment approaches of conventional medical practice (Yunus, Bennett, Romano, et al., 1997; DeBacquer, et al., 2004).

Positive personal experiences with CAM, positive feedback from their patients about CAM, and reports of exemplary health-care programs that have incorporated CAM compel some practitioners to learn more about these therapies. The increased interest in preventive approaches is also a compelling rationale for attraction to CAM therapies (Ernst, 2001).

Whatever the motivation, increasing numbers of conventional clinicians are learning about and exploring CAM therapies for personal and professional use. Some of them are contemplating or actively integrating complementary and conventional methods, in both small and more comprehensive ways (Barnes**,** Abbot**,** Harkness, & Ernst, 1999; Barrett, 2003; Veenstra, 2000; Moore, 1997**).**

Health insurers and managed care organizations that have incorporated CAM into their policies state that their primary motivation is market demand. Therapies such as nutritional counseling, biofeedback, acupuncture, preventive medicine, and chiropractic are increasingly covered under many health plans (Pelletier, Astin, & Haskell, 1999).

integrative medicine: definitions and methodologies

As the name attests, "integrative medicine" brings together diagnostic and healing methods from mainstream medicine and alternative healing systems. Ideally, integrative medicine draws on the formidable strengths of biomedicine and benefits of holistic and natural healing modalities in an individualized, patient-centered approach that seeks to enhance and utilize self-healing capacity (Bell, et al., 2002).

The vision for integrative medicine is under debate. Of particular concern is the possibility that integrative medicine will be perceived—and therefore practiced—as "combination medicine." Adding alternative therapies to a practice grounded in conventional medical beliefs may appear to be "integrative" and may be a critical first step towards integration, but it is not "integrative medicine." "Integrative medicine" must be defined by a new philosophical context that embraces healing the whole person and utilizing principles commonly emphasized in CAM (*see box, page 4*). Examples of concepts fundamental to integrative health care planning include: detoxifying the physical, social, and psychological environment; nourishing and supporting the body, mind, and spirit; and stimulating the patient's self-healing abilities. The cases on pages 6 and 7 provide examples of the application of these principles in an integrative medicine consult service.

WHAT IS INTEGRATIVE MEDICINE?

According to the National Institutes of Health, Center for Complementary and Alternative Medicine (NCCAM), "integration combines mainstream medical therapies and CAM therapies for which there is some high-quality scientific evidence of safety and effectiveness." (www.nccam.nih.gov/health/whatiscam/#3) Practically speaking, integrative medicine involves the application of medical diagnostic and therapeutic techniques from both conventional and alternative traditions. However, It is not merely the addition of non-conventional therapies and techniques to conventional practice. A new model of healing is called for—one that goes beyond treatment of disease to embrace a holistic approach to health and healing (as addressed by Snyderman & Weil (2002) and many others).

moving towards integrative health care: benefits & challenges

The integration of CAM practices, therapies, and beliefs with conventional health-care practices offers considerable potential for an improved health care system, such as expanded treatment options, improved patient and provider satisfaction, and improved therapeu-

CASE 1: ADULT OUTPATIENT ONCOLOGY CONSULT: MR. J

THE PROBLEM: A UNC oncologist referred a 56-year-old white male with a recent diagnosis of pancreatic carcinoma to the UNC Integrative Medicine (IM) Consult Team. This patient, Mr. J, was experiencing abdominal pain, weight loss, and diarrhea. A 4-cm mass had been found in the head of the pancreas, with three small metastatic lesions in the liver. He had been given a grave prognosis at another institution, and was justifiably anxious. Mr. J was seeking support and guidance for exploring complementary treatment options. He was particularly interested in nutritional therapies.

PRE-EXISTING TREATMENTS: Mr. J had been on a regimen of chemotherapy for a week and continued a course of standard oncology care thereafter.

IM TEAM INVESTIGATION: Initially, the IM Consult Team, consisting of a neurologist, pharmacist, and psychologist, met with Mr. J and discussed some complementary options in the areas of mind-body therapies, nutrition, body-work and energetic therapies, mindful exercise, social support, and spiritual perspectives. Mr. J struggled with conflicting beliefs about his potential for survival based on pessimistic comments from his former oncologist, on data on median survival time of people with his diagnosis, and awareness of other patients who had survived this condition in spite of very similar lesions.

IM TEAM RECOMMENDATION: The IM Team recommended dietary modifications such as: to eliminate high glycemic index foods, caffeine, red meats, and fatty foods; and to increase water intake. They also recommended a number of supplements as follows: vitamins—C, B- complex, B-12, E, D, A, Co Q-10, Alpha lipoic acid; selenium, calcium, and magnesium; probiotics, modified citrus pectin, fish oil, and pancreatic enzymes. The herb milk thistle also was recommended. Mr. J was encouraged to maintain his support network, which included members of his church—a central feature of his life. An array of mind-body skills were offered to Mr. J as well.

OUTCOMES: Mr. J complained about the extreme change in diet, yet he readily complied. The Team worked with him using hypnosis and guided imagery, to gain insight about his beliefs and to modify them. Training to optimize heart-rate variability was helpful in recognizing and maintaining the still point in the present moment, where calm and insight could easily occur. Mr. J participated in regular meetings with the IM Team for 15 months. At this time, Mr. J is still working regularly, with stable weight and stable primary tumor size, good energy, sleep, and appetite. He remains uncertain about the course of his illness, but admits that his survival is impressive.

LESSONS: A key concern of Mr. J was the lack of communication and difference in perspectives between the Consult Team and his conventional oncologist. A turning point in care for all was a meeting with Mr. J, a family member, and all of his caregivers to discuss his progress and to develop a comprehensive plan. This meeting represented, for him, truly integrative care.

tic outcomes (White & Ernst, 2000). With these benefits, there are also many challenges. If conventional and non-conventional practices are to come together successfully, practitioners will confront a number of important issues, including differences in practice cultures, credentials and training, quality assurance, funding and research.

In addition to enhancing the strengths of conventional medicine, integrative care may be able to better balance its deficiencies (Caspi, et al., 2003). These include potential negative side effects of individual pharmacological agents and polypharmacy, high costs and depersonalizing nature of technological interventions, and suppression of symptoms without promoting overall healing.

infusion of a fresh perspective on healing

The goal of medicine is not merely to treat disease, but to relieve suffering, and suffering is experienced not only at a biological level but by the complex social and psychological entity that is the human being. The intense pace of modern medicine sometimes overlooks the needs of the whole person, resulting in medical intervention that, though technically adequate, fails to meet these needs (Cassell, 1982). As the principles of CAM merge with conventional care, they could infuse the practice of medicine with the bio-psycho-socio-spiritual goal of healing the whole person.

expanded options for patient care

By its nature, an integrative clinical practice provides an expanded array of health-care options. While conventional therapies such as prescription drugs may effectively address a particular condition, not every individual will respond well to a given protocol. For instance, use of the triptans has revolutionized the acute treatment of migraine. However, over 25 percent of patients

CASE 2: PEDIATRIC INPATIENT CONSULT

THE PROBLEM: The UNC Integrative Medicine Consult Team was contacted by hospital staff due to a conflict between attending physicians and the parents of a 13-year-old female with extensive inflammatory bowel disease who was experiencing continued weight loss and bleeding into the bowel. The attending physicians and house staff reported that the patient had recently relapsed while under their care after initially doing better. The attending physicians believed that the deterioration was related to the use of non-conventional substances administered to the patient by her parents. The house staff indicated that the conflict was generating stress in the patient and believed that the stress was contributing to the deterioration.

THE TREATMENTS: The parents had been giving the patient a powdered mixture containing licorice, germanium, comfrey, fish oil, lactobacillus, calcium, iron and an unknown herb. The patient had been successfully treated 18 months earlier for this same condition by a naturopathic physician using this remedy, and perhaps others. Following this treatment, which took place in another state prior to the patient's family moving to North Carolina, the patient had remained symptom-free until eight weeks prior to this admission, when she again began experiencing bloody diarrhea, abdominal pain, and weight loss. The attending physicians had pursued a course of treatment that consisted of total parenteral nutrition (TPN) intermittently, Cipro, floxocin, Flagyl, prednisone, and Asacol.

IM TEAM INVESTIGATION: The IM Consult Team, consisting of a physician, psychologist, and pharmacist, met separately with the physicians and house staff, and with the parents. The team's appreciation of CAM therapies helped gain the family's trust and participation in resolving the conflict. The team undertook a literature search to determine possible side effects and interactions of the treatment protocols. Comfrey and germanium were discovered to be potentially toxic to the liver and capable of interfering with clotting. The team further determined that Cipro was probably unnecessary.

IM TEAM RECOMMENDATION: The IM Consult Team recommended to the parents that they follow the advice of putting the bowel at rest, and limiting the administration of any oral substances. The Team also recommended the use of self-hypnosis, guided imagery, and biofeedback. Although the parents were not convinced that the naturopathic treatment was responsible for the bleeding, they and the attending physicians agreed that putting the bowel at rest along with other complementary approaches would be worth a try. A plan was developed that consisted of restricted oral intake, a very few oral medications, and a self-hypnosis routine including guided imagery addressing pain control and healing of the bowel.

OUTCOMES: The family participated in the self-hypnosis instruction and practiced it with the patient. The patient also was trained in heart rate variability control. Because her sympathetic nervous system was very active, she was taught a routine for balancing the sympathetic and parasympathetic systems. The approach, in effect empowered the patient to de-stress (CAM principle of self-care and empowerment). By the end of the first week, the patient experienced a marked reduction in pain and bleeding. At the end of the second week, she tolerated the re-introduction of food. Patient, family and staff satisfaction with the care improved dramatically, as did communication between family and hospital staff.

LESSONS: Upon discharge, the patient was pleased with self-hypnosis and considering biofeedback. The family agreed to consultation with a local naturopathic physician to oversee use of herbs, probiotics, and dietary management. Integration of conventional and complementary therapies was achieved. Application of mind-body therapies was an effective component of the treatment program. Both the conventional providers and family members gained new awareness and insights for the management of this condition.

do not respond at all to triptans, and in those who do, effective treatment occurs in only 75 percent of headaches (Matchar, 2003). Incorporating complementary therapies for acute headache—such as self-hypnosis, aromatherapy, and acupressure—provides patients with effective options that lead to pain control and lower cost (Holroyd & Mauskop, 2003).

Other examples include:

- Blood pressure management through a combination of hypnosis, diet modifications, and medication (Kirsch, Montgomery, & Saperstein, 1995);
- Migraine reduction by combined use of feverfew and a beta blocker; (Holroyd & Mauskop, 2003);
- Smoking cessation with buproprion and hypnosis (Richmond & Zwar, 2003; Marlow & Stoller, 2003);
- Chemotherapy side-effect reduction with acupuncture and anti-emetics (Josefson & Kreuter, 2003);
- Low-back pain management with opiates and acupuncture (Grant, Bishop-Miller, Winchester, Anderson, & Faulkner, 1999).

enhanced patient and provider satisfaction

CAM practices, while varied, tend to share a holistic approach to healing, one that emphasizes an individualized approach to diagnosis and treatment. While many good health practitioners spend ample time with patients and provide a multifactorial assessment, it is often the disease, rather than the person, that guides the approach to treatment. Anecdotal evidence suggests that many CAM and integrative-care providers spend more time getting to know the patients' individual needs and desires, providing a patient-centered approach to diagnosis and treatment that may improve both patient and caregiver satisfaction (Snyderman & Weil, 2002).

Integration can improve a patient's personal decision-making and enhance physical and emotional well being by improving communication with all providers and by increasing their knowledge of health-promoting practices (Furnham, 1996). Furthermore, integration of complementary treatments such as mind-body therapies may increase patients' conscious participation in the healing process and feelings of empowerment.

Health-care providers may experience greater satisfaction through learning about new treatment strategies and developing skill in implementing them. For example, a randomized trial training generalist physicians to give manual therapy for acute low-back pain produced moderate benefit for patients; the most substantial finding was the increased self-efficacy and satisfaction of the doctors in managing low-back pain (Curtis, Evans, Rowane, Carey, & Jackman, 1997).

decreased dependency on medication

Increased use—and misuse—of pharmaceuticals provides motivation for integrating CAM and conventional medicine. The conventional clinician-patient dyad is often content to passively employ multiple medications in the name of symptom reduction, efficiency, and convenience. With the proliferation of medical specialties, each with its own cadre of medicines, polypharmacy and adverse drug interactions have become the rule rather than the exception, particularly for the eld-

erly and those with chronic illnesses (Beyth & Shorr, 1999; Bretherton, Day, & Lewis, 2003; Colley & Lucas, 1993). Substituting non-pharmacologic therapies may reduce potential iatrogenic effects of multiple medications, including the potential for drug dependency and negative side effects, and could lower costs while maintaining positive health outcomes. For example, in a comparison outcome study of patients with major depression who underwent an aerobic exercise regimen, treatment with sertraline, or a combination of exercise and sertraline, all three groups showed equivalent improvement after four months. Interestingly, those who exercised showed a marked reduction in relapse rate, compared with the sertraline-alone group (Babyak, et al., 2000).

enhanced health-care outcomes

There is evidence that a combination of conventional and complementary treatments often produces better outcomes than conventional therapies alone, particularly when "outcomes" include reduction of negative side effects of treatment. The synergy of integrative care in many clinical situations offers a variety of benefits, including accelerated recovery from surgery, decreased reliance on medications, and reduction of side effects (Enqvist & Fischer, 1997; Somri, et al., 2001). Another study (Davidson, Abraham, Connor, & McLoed, 2003) demonstrated marked improvement of features of atypical depression by the addition of chromium to standard treatment. In addition, a study by Shults, et al. (2002) found significantly slower progression of Parkinson's disease with the addition of coenzyme Q10 to existing treatment regimens in a dose-dependent fashion. CAM therapies can provide healing options when conventional treatment has failed or is not available. For example, it is difficult to treat tardive dyskinesia (TD), and there are few treatment options. However, use of vitamin E in moderate to high doses protects against deterioration in TD patients (Soares & McGrath, 2001).

ORGANIZATIONS SUPPORTING INTEGRATIVE HEALTH CARE

Organizations providing education or support and certification for integrative medicine skills

- American Academy of Environmental Medicine: www.aaem.com, 7701 East Kellogg, Suite 625, Wichita, KS 67207, (316) 684-5500
- American Academy of Medical Acupuncture: www.medicalacupuncture.org, 4929 Wilshire Boulevard, Suite 428, Los Angeles, CA 90010, (323) 937-5514
- American Association of Orthopaedic Medicine: www.aaomed.org, P.O. Box 4997, Buena Vista, CO 81211, Tel (800) 992-2063, Fax (719) 395-5615
- American College of Advancement in Medicine (chelation therapy): www.acam.org, 23121 Verdugo Drive, Suite 204, Laguna Hills, CA 92653, (800) 532-3688
- American College of Preventive Medicine: www.acpm.org, 1307 New York Avenue, NW, Suite 200, Washington, DC 20005, Tel (202) 466-2044, Fax (202) 466-2662
- American Holistic Medical Association: www.holisticmedicine.org, 12101 Menaul Boulevard, NE, Suite C, Albuquerque, NM 87112, (505) 292-7788
- American Holistic Nurses Association, http://www.ahna.org/, P.O. Box 2130, Flagstaff, AZ 86003-2130, (800) 278-2462
- Anthroposophical Society in America: http://www.anthroposophy.org/, 1923 Geddes Ave., Ann Arbor MI 48104, Tel (734) 662-9355, Fax (734) 662-1727
- Foundation for the Advancement of Innovative Medicine: http://www.faim.org/, Two Executive Blvd; Suite 206; Suffern, NY 10901, (877) 634 3246 (toll free)
- International Medical and Dental Hypnotherapy Association: www.infinityinst.com/imdha.html, 4110 Edgeland, Suite 800, Royal Oak, MI 48073, (800) 257-5467 (248) 549-5594
- International Society for Orthomolecular Medicine: http://www.orthomed.org/, 16 Florence Avenue; Toronto, Ontario, Canada M2N 1E9, Tel. (416) 733-2117, Fax (416) 733-2352

added emphasis on disease prevention and wellness

In medical school training, there is relatively little emphasis on preventive care, compared to disease management (Garr, Lackland, & Wilson, 2000). At the University of North Carolina School of Medicine, for instance, only 3 of 29 courses in the first two years have segments specifically devoted to issues of prevention. Many complementary therapies may be usefully applied in primary prevention as well as integrated in secondary and tertiary efforts. Examples include dietary management, exercise, stress reduction, biofeedback, and the use of supplements. Some specialty treatment guidelines now include complementary therapies as part of recommended treatment paths, such as the American Headache Society's recommendation for use of magnesium and riboflavin supplements for the prevention of migraine, which is based on the highest quality clinical study of magnesium and migraine (Peikert, Wilimzig, & Kohne-Volland, 1996).

the challenge of change

Despite considerable interest on the part of the health-care consumer and many practitioners, CAM integration with mainstream medicine is occurring relatively slowly (Kessler, et al., 2001). Reasons include simple inertia, financial disincentives, differences in beliefs about healing, lack of access to education about CAM, and limited information on clinical outcomes about complementary and alternative therapies (Faass, 2001). These are not small barriers to change, nor will the momentum of consumer and practitioner interest be sufficient to create an integrative model of care. Until these issues are addressed successfully, conventional and CAM modalities will most likely continue their largely independent coexistence, with the atttendant problems. The challenge to health care practitioners is to understand and address the key issues that are raised as conventional, complementary, and alternative healing systems interact and perhaps converge.

consumer-driven health care

For the conventional practitioner, the most compelling factor in the movement toward integrative health care is the growing use of complementary and alternative medicine by their patients (Kessler, et al., 2001). Although there are positive aspects of patient-driven health care, there are also downsides: as patients reach out for information and guidance from multiple sources—many of which are incomplete or ill informed—they risk making choices that may be dangerous, inefficient, or unnecessary. Since the vast majority of patients who use CAM also use conventional care, it becomes the responsibility of the conventional provider to become at least minimally knowledgeable about CAM. Although most patients do not discuss CAM with their conventional providers, others seek validation or clarity about CAM therapies, or request referrals to alternative caregivers, requiring even further expertise.

In the age of information "overload," keeping abreast of advances in one's own profession is a daunting task for all care providers. Becoming well-informed and staying current about a wide

FACTORS SUPPORTING INTEGRATIVE HEALTH CARE

- Patient use of and desire for CAM and IM
- Expanding choices of CAM therapeutic modalities in the U.S.
- Health professionals' increased awareness of, interest in, and education about CAM and IM
- Increased communication among conventional and CAM providers
- Documentation of success of integrative practices

array of healing modalities outside one's specialty may seem impossible. Yet, in the name of professionalism, one needs to be able to respond to patient questions about alternative therapies, to understand that a much wider range of options is now available, and to be aware of the risks, benefits, and costs of these options.

FACTORS IMPEDING INTEGRATION

- Inertia of the status quo
- Differences in clinical vocabularies and ideologies
- Boundary issues among CAM and conventional providers
- Lack of health-care provider motivation and educational opportunities
- Perceived lack of CAM research validation
- Financial disincentives
- Lack of certification and licensure of CAM providers and fear of legal risk

system resistance

usual and customary care

Perhaps no greater barrier exists to change than the "status quo." There is a general perception in Western culture that conventional medicine is a known entity, imbued with good intentions and excellent methods. It is perceived by some as a comfortable, workable, and profitable system that answers the health care needs of most people most of the time, despite significant treatment side effects and interactions, sub-optimal evidence of effectiveness, and accelerating costs (Beyth and Shorr, 1999; Bretherton, et al., 2003; Colley & Lucas, 1993**;** Poynard, et al., 2002; Starfield, 2000). In particular, "usual and customary care" may be used by the insurance and pharmaceutical industries to place economic barriers that impede change and use of alternatives. Integrating CAM into this system is therefore difficult and, in some instances, integration of specific complementary therapies requires greater evidence of efficacy and safety than required of conventional treatments (Bower, 1998).

institutional competition

In addition, the "status quo" is more than the practice habits of health care providers. It embraces all the social, political, and economic institutions, policies, and laws that make up the conventional health care system. Legal statutes, regulations, curricular policy, and professional culture all have a significant effect on the practitioner's ability to provide integrated services. The market economy of health care, including reliance on expensive procedures and short office visits, combined with the powerful influence of the pharmaceutical industry on the health-care prescribing habits of physicians, is a tremendous deterrent to institutional change (Relman & Angell, 2002).

a clash of clinical "cultures"

The lack of a common conceptual framework and corresponding clinical vocabulary can significantly impede integration by making communication challenging among different health-care cultures. For example, the term "chi" is meaningful in the practice of acupuncture but has no direct functional counterpart in the vocabulary or belief system of western medicine. Likewise, the phrase "magnetic resonance spectroscopy" may mean very little to a practitioner of Ayurvedic medicine.

educational needs

pre-doctoral education

There is widespread agreement that health profession schools, particularly medical and nursing schools, should include information about complementary and alternative medicine (Berman, 2001; Frenkel & Ben Arye, 2001; Sampson, 2001; Weil, 2000; White House Commission on CAM Policy, 2002). By 1997, two-thirds of medical schools offered elective courses in CAM or included such information in required courses (Wetzel, Eisenberg, & Kaptchuk, 1998). The National Institutes of Health has awarded grants to develop and evaluate educational approaches to integrating CAM into health professions' education (http://nccam.nih.gov). Nonetheless, CAM education—whether training in specific CAM techniques or the introduction of fundamental principles—is still a relatively small part of conventional medical education (White House Commission on CAM Policy, 2002).

post-graduate and continuing education

Although a few residencies have begun to offer and even require rotations in CAM (Kemper, et al., 2000; Muscat, 2000), and curriculum guidelines and course evaluations are beginning to be published (Kemper, et al., 2000; Kligler, Gordon, Stuart, & Sierpina, 2000) most conventional residencies have not integrated CAM information into their curricula. Few opportunities exist for conventional practitioners to acquire sufficient education or training in CAM to feel confident and competent in complementary medicine. Those opportunities that are available require significant time and personal commitment (White House Commission on CAM Policy, 2002), with the practitioner often resorting to the development of his or her own individualized curriculum.

While reliable and timely publications about CAM and integrative health care are becoming more common, they are still not widely accessible. For example, journals carrying the bulk of new information about CAM are non-mainstream and may be under-subscribed by medical libraries. Moreover, with few colleagues or mentors available, the conventional practitioner may lack guidance in choosing sources and weighing the quality of CAM evidence. Educational opportunities are increasing, however, and the increasing demand for education or training in CAM is giving rise to such innovative programs as the Integrative Medicine fellowship associated with the University of Arizona, started by Dr. Andrew Weil (White House Commission on CAM Policy, 2002).

research validation: perceptions and needs

For many conventional practitioners, the chief impediment to implementation of integrated health care is a perceived lack of quality research in complementary/alternative medicine.

A non-validating study result for a specific modality or a single-case report of adverse events associated with CAM treatments can rapidly dampen enthusiasm for integration. Despite the paucity of well-designed studies, conventional practitioners rely heavily on research reports since personal experience and success or failure in use of CAM with patients is often lacking. Many conventional-care providers are discouraged by the lack of readily available evidence supporting the value of integration in their routinely read literature. Specifically, they want—but often

cannot find—evidence related to outcomes for specific therapies conditions. Other factors that provide a negative impression of complementary care include:

- Conventional care advocates have often emphasized negative studies and side effects of complementary medicine (e.g., the few reported cases of cervical complications of chiropractic).
- There is evidence of a significant publishing bias in favor of studies of conventional medical treatment as compared to studies of complementary therapies. For example, a randomized blinded trial of peer review of two manuscripts that were identical except for the nature of the intervention (one being an orthodox and the other an unconventional treatment for obesity), found a 3:1 rating in favor of publishing the orthodox treatment study (Resch, Ernst, & Garrow, 2000).
- Funding devoted to the study of complementary and integrative approaches has been sparse (but is now increasing). The "total amount of funding for integrative medicine [research] in the United States in the past decade is less than the average cost for developing 1 drug in conventional medicine" (Shang, 2001, 613). Few CAM therapies are patentable, and thus the financial payoff from research is low, relative to pharmaceutical products. This limited funding and lack of financial incentives has contributed to the lower quality and scarcity of CAM research.
- Clinical studies in complementary care are often of questionable quality in terms of hypothesis, design, statistical analysis, or conclusions; expectations of "bottom line" answers about the value or merits of many CAM therapies is unrealistic in a field that so recently gained the attention of mainstream research institutions.
- Much of the research is published in CAM-related publications and other non-standard journals with an undefined quality of peer review, although increasingly, mainstream health-care journals are devoting space to CAM therapies.
- Individual CAM therapies or holistic treatment approaches challenge the application of standard research methods for assessing efficacy. For example, in designing a randomized double-blind controlled clinical trial, it may be impossible to blind the practitioners to the nature of the treatment. There is a need for skillful application and appreciation of other research designs. In addition, there is an urgent need to familiarize researchers with issues involved in developing meaningful CAM research.

With growing national research support and an increasingly broad spectrum of conventional medical journals publishing CAM research, the basis for these criticisms is diminishing somewhat, but is likely to remain a concern for many years.

financial disincentives

There are numerous financial disincentives to integration—from the personal costs of time and education, to staff and insurance expenses—but chief among them is the lack of third-party reimbursements for many complementary therapies. Venture capital was available in the early-to mid-1990s for start up of integrative clinics, but, with limited reimbursements, profit margins were slim

PERSPECTIVES ON INTEGRATIVE HEALTH CARE

Consumers, practitioners, and society all bring different perspectives, needs, and challenges in the process of integration.

patient

From a patient's perspective, integrative health care represents, foremost, a wider range of valid, safe health and healing options than currently available through conventional medicine alone, participating at the center of health-care decision making, and working in true partnership with providers (Weiger, et al., 2002). Patients should be fully informed of the risks and benefits of treatments under consideration and take personal responsibility for health recovery and maintenance (Astin, 1998).

Open communication between patient and all providers is essential to realize these benefits. In many integrative settings, consumers are encouraged to recognize and use their intrinsic self-healing abilities and are assisted in creating a personal definition of health that is operational, practical, cost-efficient, and appealing (Giordano, Boatwright, Stapleton, & Huff, 2002). Understanding that body, mind, and spirit are fully integrated in both health and disease is fundamental to developing a personal program of integrated medical care.

health care providers

For health care practitioners, successful integration requires specific knowledge of the patient's medical and psychosocial history, physical, mental, emotional, and spiritual state, and an understanding of the breadth of treatment options available. For conventional providers, knowledge of CAM therapies and approaches need not be accompanied by specific skills in the application of those treatments. Integration can occur by way of referral to CAM practitioners as long as there is adequate documentation of therapies, an open attitude toward collaborating with other health-care providers, and effective communication among practitioners.

In addition, for conventional health-care providers to succeed in integrating complementary medicine, certain basic attitudes, beliefs and behaviors are essential:

- Intentional consideration and use of both CAM and conventional resources in promoting health, preventing disease, and guiding treatment choices;
- An attitude of openness toward alternative models of health and healing based on evidence of efficacy, personal experience, and positive outcomes for patients;
- A willingness to explore the health-related goals of both patient and caregiver in an open atmosphere of balanced partnership;
- Professionalism and respect for other health-care providers participating in patient care;
- A significant effort in optimizing communications among colleagues;
- Acknowledgement of improved standards of training for all modalities practiced;
- Adopting a scientific approach to healing practices;
- Demonstrating self-care strategies that blend conventional and complementary practices.

health care system

From society's perspective, integrative health care raises issues related to basic beliefs about the nature of health and healing, resource allocation, and clinical outcomes (Kessler, et al., 2001). Integrating health care requires the recognition and resolution of a number of politically sensitive issues, including consumer access to care, control of provider credentialing, scientific credibility, funding, and the structure of third-party coverage. As noted by Cohen, these factors are fully interactive such that health care providers, consumers, regulatory agencies, and legislators are constantly reshaping the process of integration (Cohen, 2002).

to non-existent and the funding dried up rapidly (Faass, 2001). Change in this area will require new policies and practices on the part of insurers, medical professionals and national and state legislative bodies. In order for these changes to occur, more high-quality studies must be published demonstrating positive outcomes of CAM therapies, and insurers' negative biases or lack of knowl-

edge concerning CAM must be addressed (Pelletier, et al., 1999). Complementary approaches are often held to a higher standard of evidence than is afforded conventional practices. For example, the efficacy of hypnotherapy and biofeedback is well established, yet many major health insurance programs do not cover these therapies.

licensing and legal risk

A particularly thorny set of issues for conventional practitioners and for health-care consumers relates to licensure, regulation, certification, and privileging of CAM providers in the conventional medicine context. Relatively well-defined training and certification programs govern some CAM practitioners, such as chiropractic physicians. For others, such as professional homeopaths or aromatherapy practitioners, training and certification standards are more uneven. Licensure, as well as licensure requirements, for most CAM practices varies from state to state (White House Commission on CAM Policy, 2002). For example, while most states license the practice of acupuncture by non-physicians, some states require MD supervision or referral (White House Commission on CAM Policy, 2002).

For some consumers, a lack of such standards or licensure may imply a lack of societal approval or legitimacy. As a result, patients may be afraid to disclose their use of those therapies to their conventional providers. Similarly, conventional care providers may equate lack of licensure with incompetence. In an excellent summary report, Cohen (2002) encourages conventional practitioners to become familiar with the laws in their state regarding complementary care, since it is at the state level that such laws are enacted and enforced. Cohen also advises that law in this area is changing rapidly, and regular review of recent changes is important in limiting liability.

Legal risks are greatest for the conventional practitioner attempting to practice integrative care in the following circumstances:

- When patients are referred to a CAM provider without informed consent or adequate education about the type of therapy provided;
- When the condition is fully treatable by conventional means and non-standard therapy is used with a resulting delay in treatment or diagnosis;
- When patients are referred to a complementary practitioner who is known to be incompetent;
- When a patient is jointly treated by a conventional provider and a CAM practitioner known to be incompetent; and
- When a condition known to be treatable with a complementary approach is not so treated, especially in the face of failure of other therapies (Cohen, 2002).

approaches to integrative health care

Many models of integrated care delivery are possible. For the conventional practitioner, integration may involve acquiring specific knowledge and skills of one or more complementary/alternative modalities sufficient to practice at some level, networking with CAM providers, or simply feeling comfortable talking to patients about their use of CAM modalities. At the other end of the spec-

HOLISTIC FAMILY PRACTICE

James Dykes, MD, was well ahead of the CAM curve when he opened his practice, Integrative Health Care, in the mid-1980s, after graduating from Duke Medical School and earning board certification in family practice. After completing his second year in medical school, he took a three-year break to become an organic farmer. Farming, he says, led to the discovery that "nature heals itself. To enhance the health of the soil, a good farmer needs to carefully study and replicate what he sees happening spontaneously in nature. A good farmer does as little as possible beyond this. In farming, I drew the parallel with medicine."

Because he values the holistic approach with his patients, Dr. Dykes places great emphasis on listening and understanding of many aspects of a patient's life, and typically sees only eight or nine patients a day. He has refrained from participation with insurance programs of any kind, in the belief that current plans and programs are a barrier to practicing humane and effective medicine. Dr. Dykes explores conventional and CAM options on behalf of his patients.

After 17 years of practice, he feels tremendous gratitude toward his patients who have made his practice so rewarding.

trum are more complex models such as *multidisciplinary* practices, where a mix of complementary and conventional practitioners share space, and *interdisciplinary* practices, which involve various levels of integrated patient management through a partnered arrangement.

One type of practice does not necessarily evolve into other, more elaborate, arrangements. The initial form and subsequent development depend on practitioner interests, resources, experience with integration, motivation, skills, and the ability to adapt within the culture of integration. On the following pages are descriptions of seven different approaches to integration. (The Appendix—*Models of Integrative Care*—on pages 34-35, provides a brief, comparative review of this information.)

While these seven models describe general approaches to integration, each integrated practice also reflects a unique and personal professional journey for those involved. The practitioners who choose the path to integration do so for many reasons that ultimately shape the new practice's final design.

There are some areas of the country, such as New Mexico, where CAM practices have a long history. In central North Carolina (which includes the cities of Raleigh, Durham, and Chapel Hill), the decade of the 1990s saw increasing interest in alternative and complementary medicine, with an influx of CAM practitioners and a growing interest among local practitioners in gaining CAM skills and experience. Many of the integrated care models described above can be found here. Brief descriptions of a number of the integrated practices are included in sidebars on the next several pages. We are grateful to the practitioners involved for sharing their histories and philosophies. Their stories offer valuable lessons about the process of creating an integrated medical practice, as well as a glimpse of some of the options and considerations involved in charting a new path in health care practice.

model 1: the informed clinician

In this simplest type of integrative practice, a conventional provider becomes knowledgeable about one or more complementary therapies, and is therefore better able to communicate and accurately inform patients about their use. An example of such an approach is a family-medicine physician who becomes knowledgeable about herbal/supplement therapies and mind-body therapies for conditions commonly seen in the clinic. The physician regularly asks patients about their use of CAM and is open to their responses. Although communication and information sharing is the primary goal in this model, the health professional may recommend certain CAM approaches, such as a particular nutritional supplement, mind-body, or body-work therapy, as part of a care plan,

based on patients' openness, research findings and optimizing outcomes (Gordon, 1996).

For each complementary/alternative therapy studied and incorporated into the practice, the clinician must understand:

- The basic assumptions inherent in the complementary modality relating to health and healing;
- The principal decision-making strategies for that therapy;
- The typical scope of the discipline, including specific exclusions;
- Methods for applying the treatment;
- Any inherent side effects;
- Any known adverse interactions with conventional treatments.

EXPANDED PHARMACY SERVICES

Tom Jones Drug Health & Wellness Center in Garner, NC, and Central Pharmacy/ Central Compounding Center in Durham, NC, are representative of a number of pharmacies in the Triangle offering certain clinical services and testing, along with wellness counseling, and emphasizing patient education programs, especially in the areas of diabetes, cardiovascular health, and respiratory illnesses. Tom Jones, RPh, in Garner and Bill Burch, RPh, Jennifer Burch, PharmD, and Sloan Barber, PharmD, in Durham work closely with national organizations that provide testing and other resources, including diagnostic work by naturopathic physicians, for clients that they counsel in their pharmacies. They have a special clinical interest in bio-identical hormone replacement therapy, for both women and men. These pharmacists emphasize the importance of their role in the triad that includes physician, patient, and pharmacist. Patients' physicians must sanction this clinical work before it begins. Dr. Burch has regular hours within several medical practices where she counsels patients—especially diabetics and patients with heart disease—on the proper use of medications and issues related to nutrition and proper exercise.

Initial benefits of this approach are improved patient communication, improved ability to provide information to patients on safety and efficacy of CAM therapies, and, to a limited degree, ability to make informed suggestions about patients' use of complementary practices. The conventional provider may also benefit personally through CAM-directed self-care.

This model has limitations. The provider may not be knowledgeable about subtle distinctions that guide CAM therapy choices; there is no mechanism for feedback from CAM community providers other than patients' reporting of their experiences; and it may be difficult to track outcomes specifically related to integrated therapies.

Often, practitioners initially adopt this approach to satisfy patients' inquiries about CAM in their areas of practice or to provide guidelines for use of herbals and supplements, including their interactions with conventional drug therapies. As practitioners gain experience through listening to patients and reading the literature on CAM, they may be inspired to begin a limited use of CAM therapies within their practice. Motivation may include increased breadth of therapeutic choices, improved rapport with patients, and improved symptom management.

Education may be largely self-study. While no credentials are necessary, study is likely to require several hours of reading a week and two conferences/workshops a year. Costs—for books, an on-line herbal information service, and conferences—are moderate. Risks to practitioner reputation and patients are low. This approach usually requires more time for education per patient visit. Ultimately, the benefits are likely to be improved patient care and, perhaps, enhanced physician satisfaction and improved reputation with patients.

Ideally, this model of integrated practice would evolve to directly contacting and visiting local CAM providers such as massage therapists, nutritionists, or pharmacies, so as to provide a more accurate referral source for patients. The practitioner may also provide educational materials and train staff to educate their patients; provide on-line access to an herbal information service;

begin using herbals/supplements in self-care, or develop a local resource list of mind-body therapies. Feedback in the evaluation of this approach comes primarily from patients and personal and clinical experience with CAM therapies and outcomes.

model 2: the informed, networking clinician

This type of integrated practice builds on the first model, adding informal referral networks with CAM practitioners to the provider's growing breadth and depth of knowledge of complementary therapies. Building a referral base depends on exploration of local resources, patients' and colleagues' referrals, and personal experience. Visiting the CAM practice environment and meeting with each provider face to face is important, as is discussion of needs for communication and documentation. Mutual understanding and trust develop with multiple interactions over time. The conventional practitioner may choose the number and types of referrals made and the degree of interaction with each complementary practitioner, with continued interactions being contingent on outcomes, patient feedback, and ongoing communication. Autonomy of each practitioner is maintained. An example of this approach is found in the University of North Carolina Headache Clinic, in Chapel Hill. Here, a neurologist integrates the skills and services of local CAM practitioners as he refers his patients with migraine and other forms of head and neck pain. These complementary therapies include acupuncture (on- and off-site), herbal medicine, naturopathy, hypnosis, Traditional Chinese Medicine, craniosacral therapy, homeopathy, and neurolinguistic programming (NLP).

A major advantage of this model over Model 1 is that it offers a broader range of treatment options for patients, including use of established community referral patterns when institutional policies limit complementary practitioner credentialing for on-site therapy. Patients may feel empowered by visiting CAM practitioners and providing feedback to the conventional provider, thus furthering the development of attitudes of self-care for the patient. Limitations include lack of control of documentation; lack of face-to-face time between practitioners for discussion of cases; difficulty in tracking patient follow-through and outcomes; inconvenience to patients who must travel to different sites to follow through with treatments; uneven credentialling of CAM providers; and lack of third-party coverage for complementary services. Risks to patients and reputation are small when referral networks are created and maintained responsibly. There is a slight increase in overall legal risk if the conventional practitioner attempts to control the scope of therapy provided by the CAM practitioner to which he/she referred the patient. In this case, if there is a negative outcome in a patient interaction with the CAM practitioner, the patient may attempt to hold the conventional provider liable for the alleged failings of the CAM practitioner.

Although additional credentials are not

BOARD CERTIFIED IN UROLOGY AND HOLISTIC MEDICINE

Mark McClure, MD, FACS, trained in Indiana as a conventional physician and completed a residency in urology at the University of Pennsylvania. He practiced in a conventional urologic group until 1997, when his increasing interest in CAM modalities inspired him to partner with a member of the Amercan Holistic Nurses Association, Cheri Elliott, to establish Landmark Urology and Complementary Medicine. Dr. McClure was the first urologist to become board certified by the American Board of Holistic Medicine in 2000. He lectures frequently and has written textbook chapters, journal articles, and a book about conventional and complementary therapies for urologic problems. Cheri Elliott graduated from the UNC-Chapel Hill Adult Nurse Practitioner Program in 2004. Together they offer their patients a holistic approach to urologic health.

BRINGING EAST AND WEST TOGETHER IN A COLLABORATIVE CLINIC

After 27 years of practice in a university medical school setting—both as physician and administrator—pediatrician Michael Sharp took the first steps to a different kind of practice: training as an acupuncturist and Chinese herbalist. The training and exposure to a different perspective on healing led him to create Plum Spring Clinic—a small integrated medical clinic in Chapel Hill, NC, that draws on a variety of healing modalities in a collaborative practice model.

"Our goal," says Dr. Sharp, "is to integrate western medical practices with a wide range of scientifically based complementary and alternative medical therapies. We have found these combinations can dramatically improve our patients' health and well-being."

He notes that the practice "specializes in the care of people with conditions that are unresponsive to conventional treatment, such as chronic pain, fibromyalgia, low-back pain, chronic sinus infection, tension and migraine headaches, and stress."

Plum Spring staff includes: a physiatrist who aslo practices acupunture; a holistic women's health nurse practitioner who utilizes bio-identical hormone replacement therapy; a physical therapist; a doctor of oriental medicine; massage therapists; a nurse trained in manual lymphatic drainage therapy; and a movement therapist. The clinic offers individual consultations and treatment as well as classes in yoga, tai chi, qigong, and topics in alternative medicine.

Dr. Sharp describes the clinic's approach as a collaborative process: "We refer to each other, hold weekly staff meetings, visit other practitioners in the community, talk over coffee/tea, share magazine articles, discuss what distinguishes us and what is similar about us. We are energized by the belief that we are exploring unexplored treatment combinations. We have immense respect for our differences and our capacity to see together what we can't see individually."

This works, he says, "because we all believe none of us has the answer but that by early next week we will have discovered it by some act of synergistic alchemy."

As one of two licensed MDs in the practice, Dr. Sharp sees most new patients first, then offers them options and asks how they would like to proceed. He sees the patients in follow-up if not involved as one of the primary treating practitioners, and works with them to reassess progress and consider further options.

required for the conventional practitioner, additional resources are needed beyond that of Model 1. These include time for initial visits and follow-up communications with CAM providers and costs of personal education about CAM, including books, on-line CAM services, seminars, and professional meetings. It may also require more time per patient visit to educate patients about the reasons for CAM referral, to describe the nature of the treatment to be administered by the CAM practitioner and to arrange for follow-up. The path for Model 2 begins with Model 1, and includes increased research and experience in the use of specific CAM therapies for specific conditions, development of clinical pathways that include CAM therapies, and networking and personal experience with local CAM providers. Careful documentation of outcomes is essential to measuring success in this model. Feedback for evaluation comes from patients, CAM practitioners and other caregivers, and personal experience.

model 3: the informed, CAM-trained clinician

In this next model, the conventional practitioner, who may or may not have already developed referral networks, adds specific training in CAM therapies to a basic knowledge of CAM. An example of this model is an established, conventionally trained MD in general practice who be-

MEDICAL ACUPUNCTURIST COLLABORATES WITH CAM PROVIDERS IN PAIN CLINIC

José Armstrong, MD, trained in his native Puerto Rico where he completed his internal medicine residency. Upon moving to North Carolina, he became a staff physician with Blue Ridge Clinical Associates in Raleigh. Dr. Armstrong opened Carolina Healthcare Providers in Raleigh as a model CAM practice devoted principally to pain relief and pain management. Participating providers include Chinese medical doctors with expertise in neuropsychiatry and acupuncture; a chiropractor; naturopathic physician; massage therapists; certified craniosacral therapists, and specialists of other modalities such as aquatic therapy and bodywork. First contact with the practice can be with and through any one of these practitioners. Dr. Armstrong trained in the rigorous program in medical acupuncture at the University of California at Los Angeles Medical School, and has served as an instructor there in medical acupuncture since 1995.

comes a licensed acupuncturist by taking a course with certification provided by a nationally recognized training organization, and then becoming licensed in the state.

A principal advantage of this approach is that the documentation of indications and outcomes are under the immediate control of the clinician. Another advantage is that the practitioner accumulates personal experience in applying a complementary therapy. This approach requires documentation of training or credentialing, and liability insurance covering the newly acquired skills (Cohen, 2002). Feedback for evaluation of this approach comes from patients, other providers, personal experience, and HMOs.

Among the motivating factors for pursuing this model is a desire to expand professional skills, treatment options, and to add billable procedures to the practice mix. Credentials are desirable for legal purposes as well as for providing the patient with some reassurance of adequate training in the given modality. There is an investment of time and other costs. For example, acupuncture training may involve three to four weeks away from practice, plus several hours per week for video viewing and reading. The investment in books, travel, tuition, equipment, and time away from work is substantial. The gains are in practitioner satisfaction, enhanced patient care, improved reputation, and billable procedures.

This approach involves relatively little risk to reputation or patients, although the addition of services not typically covered by insurers may increase the complexity and cost of practice management. Further, working providers will have limited time to devote to in-depth training in a CAM therapy or system in the continuing education context (i.e., brief course sessions, at-home study). Emersion in CAM training typically requires time off from clinical practice. Thus, the service offered based on CE study would be qualitatively different from that of a specialist in that therapy or system.

The path to Model 3 may be directly from Model 1, but may include Model 2. The practitioner's path may lead further to a career shift, involving a major emphasis in a CAM modality, training in other complementary modalities, and collaborating with additional complementary practitioners.

model 4: multidisciplinary integrative group practice

In this model, practitioners provide both conventional and complementary therapies in a partnership, often focused on specific clinical issues. A distinctive feature of this model is that while practitioners work collaboratively in the same office setting, patients see different providers in the clinic, although cross-referrals happen regularly. Theoretically, the case manager could be any one

of the care-providers, and the choice should be in the hands of the patient in most instances. For example, the patient may initially enter the clinic to see the non-physician acupuncturist for back pain, and then the acupuncturist may refer the patient to the internist for further evaluation. An example of this approach is The Texas Back Institute, in Plano, Texas. This group specializes in the treatment and management of back pain and includes an orthopedist, an osteopath, a family practitioner, a massage therapist, and a biofeedback therapist working collaboratively in the same facility (Triano, Rashbaum, Hansen, & Raley, 2001; Coile, 1995; Pristave, Becker, & McCarthy, 1995).

A major advantage of this model is its ability to focus on specific clinical areas, such as family medicine, women's health, pain, geriatrics, or rheumatological disorders. Lower overhead is also possible due to shared office space and support personnel. Among the major limitations are the risks of greater financial vulnerability due to variability in productivity among staff and possibly legal risks to the practice if key personnel do not have adequate credentials (Cohen 2002).

A key motivating factor here is the desire to focus on a specific health problem in a collaborative, integrative fashion. Although this model requires no additional training in each associates' modality, additional education is required for each associate to become adequately familiar with the others' discipline. Costs are incurred in the start-up phase and for space, staff, and development of a business plan. Attention must be paid to the mix of personnel, including appropriate training and credentials for each practitioner.

A factor to consider is the significant differences in beliefs, training, and practice styles of the partners. This can lead to confusion about the role that each plays in decision making and care of a given patient. Clearly identifying the primary "case manager" for each patient is important in this setting to improve communication between practitioners, to direct care plans, and to avoid conflicts over patient care. In this model, there may be challenges in working out financial arrangements and risk/reward assignments because of the uneven reimbursements by insurers. Up-front payments for some but not all services may create confusion for clients.

The benefits can be considerable. Early detection of non-response to conventional care can result in earlier integration of CAM therapies. The practice design permits

INDIVIDUAL PRACTICES WITH FOCUS ON ALTERNATIVE TREATMENTS FOR CHRONIC HEALTH PROBLEMS

Two physicians in the NC Triangle area, John Pittman, MD, and Dennis Fera, MD, practice separately in non-conventional ways that are described as functional medicine. Dr. Pittman, trained at the master's level in biochemistry, earned his medical degree in Georgia and completed the pediatric residency program at NC Baptist Hospital in North Carolina. He established the Carolina Center for Integrative Medicine in Raleigh in 1994. It serves patients with a wide range of health needs, including a variety of chronic disorders. Says Dr. Pittman, "Our approach is to view the body in the most complete way possible, especially function on the cellular nutrient level and restoration of normal digestive function." Therapies employed include chelation, IV vitamin and mineral therapies, natural hormone therapy, nutritional supplementation, colon hydrotherapy and nutritional detoxification, massage therapy and energy work, and lifestyle and nutritional counseling. Notes Dr. Pittman, "These complementary therapies create an environment where cellular vitality and wellness are efficiently restored."

An interest in treating pain led Dr. Fera to CAM therapies. He opened his practice, Holistic Health & Medicine, in Hillsborough. Dr. Fera completed a residency in rehabilitation medicine at New York University Medical Center in 1987, and began his exploration of alternative therapies shortly thereafter when he realized "my formal training often fell short of relieving my patients' pain and disease, and simply did not fit my own 'mind-body-spirit' approach to healing." Like Dr. Pittman, Dr. Fera sees many patients with long-term chronic problems who have exhausted their conventional medical options. He offers a variety of integrative treatments to his patients, including chelation, oxidation, ultraviolet light, prolotherapy, neural therapy, natural hormone therapies, nutritional medicine, and stomach and intestinal screening and treatments. Both doctors offer Meridian Stress Assessment evaluation within their practices.

highly focused efforts as well as the clear definition of treatment protocols and outcomes. Further, the openness to considering and applying reasonable treatment strategies may enhance practitioners' reputations among patients and referral sources, as well as increase patients' satisfaction. There is the potential for cross-fertilization of ideas and synergy of therapeutics in this model because of the practitioners' proximity each other and familiarity with approaches to care.

The evolution of this model may include expanding staff to include other CAM providers (herbalist, Reiki healer, etc.) and expanding treatment focus to other conditions/age groups. Other developments, such as the inclusion of group therapy, may help empower patients with support and information. Feedback for this approach comes from group members, patients, other caregivers, and HMOs. Of all the models presented here, this one may provide the optimal mix of ease of implementation, efficient delivery of patient care and enhanced caregiver growth.

model 5: interdisciplinary integrative group practice

A further level of integration takes place in this model, in which care providers in multiple disciplines see patients together as a team. As in Model 4, the focus is often on a special area, such as chronic pain or women's health. The team leader is often a physician, although other team leaders are also feasible. The case manager may be the physician or another health-care professional. In one version of this model, each conventional care provider has some training in a CAM discipline. For example, team members in the UNC Integrative Medicine Clinic, which focuses on the treatment of chronic pain, include a physiatrist with expertise in Traditional Chinese Medicine, a neurologist with expertise in hypnosis and neurolinguistic programming, a pharmacist with expertise in herbal and nutritional therapies, a clinical psychologist with expertise in mind-body therapies, and a physical therapist with expertise in body-work therapies. In addition to a core team that sees each patient, auxiliary team members, such as a homeopath or Feldenkrais practitioner may be asked by the team leader to address the need of a specific patient. Larger group practices may include multiple primary and auxiliary teams. For example, the East-West Health Centers in Denver, CO, includes nine conventional providers (four family practice physicians, two internists, one osteopath, one dermatologist, and one physiatrist) as well as six CAM providers (herbal medicine, chiropractic, naturopathy, acupuncture, hypnosis, NLP, and homeopathy) who come together as teams to see individual patients (Herre & Faass, 2001).

An advantage of this model over the preceding one is that patients obtain an interdisciplinary perspective on their illness as well as a comprehensive treatment plan, with follow-up that may address multiple issues—in essence, one-stop care for many patients. In addition, this model, even more than the preceding one, encourages expanded educational

MULTI-DISCIPLINARY PAIN MANAGEMENT CENTER IN NORTH CAROLINA

Alan Spanos, MD, is among the small group of conventional practitioners in the Triangle who turned to CAM before the 1990s. Trained at Oxford, Duke, and UNC Schools of Medicine, Dr. Spanos is board-certified in family medicine and trained in internal medicine and anesthesiology. As a clinical associate, he teaches pain management at the UNC School of Medicine. Dr. Spanos is known as a doctor who will explore any reasonable option on behalf of his patients. ("Adding acupuncture to my practice has been the most refreshing and invigorating thing I have done in years," he once noted.) His practice, Blue Ridge Clinical Associates in Chapel Hill, NC, is a multi-disciplinary pain management center. Patients who come to the center are required to have a primary care physician as the first-line doctor in case management who will work with Dr. Spanos and his colleagues.

opportunities for practitioners, as their daily interactions stimulate continual cross-disciplinary learning and discussion. Success depends on the openness and communication skills of group members. Depending on arrangements, this model may offer financial cross-coverage as well as an improved negotiating position with respect to HMOs and other insurers. Disadvantages may include difficulty arriving at consensus regarding overall goals or resolving financial inequities among the various participants. Potential difficulties include working through different operating assumptions about the nature of healing.

Motivation for the development of this model typically involves a desire to address medical problems comprehensively yet efficiently. However, additional time outside of direct patient care is required for discussion of patients and organizational issues. A case manager may be required to screen patients for the clinic and organize the clinic visits. Although little additional training is required of the individual practitioners, knowledge and skills grow with team interaction and with individuals' continuing education. There are some additional costs and legal risks—an evolving system of this size needs flexibility in space allocation and additional overhead in the form of support staff.

This practice model evolves with the expansion of staff to include other complementary providers and sub-specialization as practitioners discover areas of particular expertise and success. Evaluation of this approach comes from patients, group members, insurers and local referral sources.

A COLLABORATIVE HEALING ENVIRONMENT

Health Space, as described by its founder and principal clinician, chiropractor Brett Hightower, is a "multi-dimensional health practice" in Raleigh, NC. Practitioners include Dr. Hightower, who is also an acupuncturist; a massage/bodywork therapist, a naturopath and exercise physiologist, and a certified hypnotherapist. Collectively, they provide a range of complementary and alternative healing services, including chiropractic, acupuncture, physical therapy, oriental wellness, tai chi, yoga, hypnotherapy, massage, personal training, aromatherapy, and reflexology.

At the heart of the practice, however, is a collaborative "journey to health" program. While it is possible to sample Health Space offerings in a selective way—simply taking tai chi classes or seeking pain relief, for example—most clients enter a partnership with the team of clinicians on a highly individualized "journey to health." Notes Dr Hightower: "They rapidly come to understand the inter-relatedness of mind, body, emotional, and spiritual aspects of the healing process."

The "journey to health" program emphasizes the process of healing and attaining wellness. Each client first completes an extensive Personal Wellness Profile, which forms the basis for an individually designed health plan, supported by various clinicians at Health Space.

model 6: hospital-based integration

This approach integrates conventional and CAM services under the auspices of a hospital or major medical center. This model has two key goals: to improve patient and family experiences of health care in an inpatient setting; and to honor a commitment to provide integrated care. Pioneers in integrative health care include the Sloan Kettering Cancer Center (Zappa, 2001), the Institute for Health and Healing at California Pacific Medical Center (Stewart & Faass, 2001), Hennepin County Medical Center (Canfield, 2001), and a number of hospitals that are affiliates of the Planetree Network (http://www.planetree.org). Such examples provide insight into the logistics, efficacy, and value of combining complementary and conventional care (Faass, 2001). Although each approaches "integrative" health care in a unique way, all seek to expand patient care options; to improve communications and patient-caregiver relationships; to reduce dependency on pharmaceutical and technological interventions in favor of more natural treatments; and to provide a

AN INTEGRATIVE PRACTICE AT A TEACHING HOSPITAL

Launched in October 2002, the Integrative Medicine Clinic at the University of North Carolina (Chapel Hill) offers an interdisciplinary consultation and treatment service for those patients with chronic pain and other conditions who wish to integrate conventional and complementary approaches. The Clinic team includes a physiatrist, neurologist, clinical pharmacist, psychologist, physical therapist, nurse, and administrative coordinator—all with integrative medicine skills—who participate with patients in a comprehensive review of physical, emotional, mental, and social aspects of their condition. Medical students and residents often participate in the clinic as learners.

Following an initial evaluation, team members see patients for up to six months for interdisciplinary assessment, individualized care planning, implementation of care, and collaboration with a primary caregiver for ongoing management. Patients actively participate in developing and carrying out the treatment plan and make a minimum commitment of 12 weeks to the program. Recommendations for therapies such as acupuncture, massage, hypnosis, biofeedback, mindfulness training, herbal medicine, and nutritional counseling are applied in an individualized, culturally respectful, values-oriented manner. The goals of the program are to improve quality of life and increase function. A guiding principle is promotion of the body's self-healing abilities. Emphasis is on non-pharmacological options, with medications modified after consulting with the patients and their primary physicians. Patients are encouraged to let go of old, maladaptive patterns of thought and behavior that may prevent seeing each situation as unique and full of potential, and to view and experience the process as a journey towards wholeness.

greater attention to wellness, disease prevention, and self-care, which should lead to improved outcomes for their patients.

Costs associated with implementation at this level include time and personnel dedicated for planning and staff education, consultation fees in the start-up process, and renovation costs.

Credentialing is required for complementary/alternative care providers working in the hospital settings, but licensure may not be necessary if administrative permissions are granted. The only significant risks are those to the hospital/medical center's reputation if community perceptions of complementary medical practices are negative.

As with the other models of group practice, there may be difficulty in achieving agreement by participants, and there are potential financial problems related to compensation and reimbursement. The benefits of the model include improved patient care and satisfaction and enhanced reputation. Other potential benefits are the retention of nursing and service staffs and an increased competitive edge for the hospital regionally. Additionally, there may be opportunities for volunteers to participate in programs supporting patient-centered care, such as healing arts and animal-assisted therapies. There must be acceptance and leadership by hospital administrators who are likely to judge the program based on patient satisfaction surveys and costs. Physicians and other staff members should be included in planning and implementation. Utilization of hospital resources usually depends on competitive allocation, based on perceived needs and the potential for attracting patients.

Hospital-based integrated practice evolves from concept to pilot projects to expanded implementation in multiple parts of the institution. Feedback to evaluate this approach comes from patients, staff members, hospital/center administrators, and outside agencies that evaluate patient satisfaction, such as Press-Ganey Associates.

model 7: integrative medicine in an academic medical center

Integrative medicine within an academic medicine center weaves together teaching, research, and clinical care and facilitates expanded awareness and understanding of CAM and integrative care among health-care providers, increased integrative clinical services, and increased research initia-

tives. The University of North Carolina Program on Integrative Medicine is an example of this approach. This program and the University's Departments of Family Medicine, Neurology, Physical Medicine and Rehabilitation, and Obstetrics and Gynecology have cooperated to develop and sustain a teaching program in complementary medicine that involves students, resident physicians, faculty, and community practitioners. Clinical services developed through this effort include a CAM consultation service and an integrative medicine clinic that provide teaching opportunities and additional resources to the community. Major limitations include difficulty in credentialing CAM providers within the Health Center for provision of clinical and educational services, and the high cost of providing services in an educational setting.

Academic health professionals, who typically combine clinical care with teaching and research, are drawn into the integrative medicine arena through the needs of their patients or research initiatives. Administrative costs and staff support may be funded by research grants or by public or private endowments. Educational risks to the reputation of the institution are minimized by emphasizing an evidence-based approach, as well as by demographic statistics describing patients' increasing use of CAM and the responsibility of the academic medical community to provide education about CAM therapies. Well-designed research projects raise awareness of CAM therapies in a safe and supportive environment, with the potential stigma of undertaking non-mainstream research offset by the validation of receiving external funding, such as NIH grants.

Employing credentialed CAM providers for clinical services can minimize legal risks. Impediments to this model include the heavy reliance on MDs to practice CAM and the need to operate under multiple administrative umbrellas with their associated political and financial pressures. The issue of CAM provider credentialing is also a challenge, as is the likelihood of multiple interest groups competing for limited resources. The benefits of the academic model include improved patient care and exposure of students, residents, and faculty to CAM, as well as multiple opportunities for both basic and clinical research.

This model may evolve on many levels: expansion into the medical center departments and divisions in the areas of teaching and clinical care; expansion of integrative patient care through consultation and research; and through outsourcing CAM therapies to the community when health center policies cannot accommodate complementary medicine providers. Feedback for evaluation of this approach comes from patients, students, residents, faculty, administrators, press, public, and HMOs (Carlston, Stuart & Jonas, 1997).

steps towards integrating CAM with conventional practice

A complex mixture of options and barriers influences conventional practitioners toward or away from integration. These factors are shaped by individual and interpersonal experiences as well as personal beliefs, institutional policies, and societal forces. They include caregiver openness, health-care administrative support, community resources, availability of educational and training opportunities, and concern for patients' safety and care quality. Control over these many factors varies considerably. For example, while decisions regarding personal education may be largely under personal control, more difficult to influence are institutional and societal barriers such as limited third-party reimbursement for CAM services.

The models of integration described above are merely examples of many possible variations; the form that develops is unique to each situation. Also unique are individual providers' paths toward integration, which may initially be triggered by diverse events—a colleague's or patient's report, a research article, or a personal experience of illness. The resulting steps toward integrative practice are likewise individualized, often gradual and circuitous, with auspicious coincidences along the way.

Nevertheless, it is possible to outline a structured, formalized process for moving towards integrated practice, beginning with a few initial steps that are crucial for success. These "first steps to integration" are simple, relatively low-cost activities that set the stage for the development of an integrated practice. They include assessing beliefs, acquiring knowledge, and adopting new attitudes and behaviors.

assessing beliefs

The process begins with a critical first step—an inventory of personal beliefs about illness and healing. Practitioners may never have completed such an inventory, even during medical training. From this honest appraisal there may come a renewal of motivation and compassion in the service of others, along with a desire to acquire new skills and knowledge for enhancing care giving. Reflection on the principles of complementary care (*see box on page 4*) in terms of one's personal beliefs and care practices should aid in this process. These principles include an emphasis on patient/healer communication and self-care that form the foundation for integrated practice.

accessing and acquiring knowledge

Next comes an honest self-assessment of one's personal knowledge base of complementary and alternative practices. Reviewing a textbook on CAM or integrative medicine may provide an initial basis for this assessment. One starting point is to become knowledgeable about at least one CAM therapy, including evidence that supports its use and possible adverse effects. Ideally, one should survey the breadth of CAM therapies and systems of healing, including their principles and assumptions regarding illness causation and management. Selected CAM topics can then be explored in further depth, depending on interest and area of desired specialization.

Excellent continuing education courses and self-study materials are available, including good-quality research reports in peer-reviewed journals. (See the UNC Program on Integrative Medicine's *Information Sources for Complementary & Alternative Therapies* as well as other publications in this se-

THE PATH TO CHANGE

The move to a new, integrative model of care requires:

- Assessing beliefs about healing, and appreciating the value of principles of complementary/alternative care
- Identifying reliable sources of information about CAM and beginning to acquire knowledge
- Developing and maintaining methods for keeping up-to-date on CAM and integrative medicine research
- Appreciating the political and economic factors shaping medical practice and public health policy
- Communicating with patients about CAM
- Documenting clinical experiences
- Developing quality relationships among CAM and conventional caregivers, and supporting those exploring new models of care.

ries, listed in the front of this publication.) Conferences provide opportunities for training as well as networking. Training in one or more CAM modalities is another option. Observation, personal experience, and/or instruction in specific applications of complementary/alternative methods with local practitioners can be valuable learning strategies.

Further, it is important to develop and maintain methods for keeping up-to-date with reports on CAM-related basic research, clinical outcomes, and complications arising from integrative approaches. Examples include subscribing to key journals or initiating a journal club. Moreover, becoming knowledgeable about CAM requires being well informed about various contextual issues that affect integrated practice, including the political and economic factors influencing medical practice and public health policy.

communicating with patients/ clients

Skillful communication with those who hold diverse belief systems is essential for professionalism in health care. To assess skills in this area, consider the following questions: Does history-taking routinely probe the details of CAM use? Do conventional providers listen to their patients' experience with alternative-care providers, and their sources of information? Are these therapeutic approaches investigated? The basis for effective communications is an attitude or belief in a partnership with patients, with shared responsibility in therapeutic planning and implementation. This partnership is, in essence, an opportunity to communicate and learn from each other. To insure success, both patients and caregivers must abandon paternalistic expectations and attitudes in communication and care.

communicating with CAM providers

Success also depends on practitioners' connections with individual CAM providers and integrative practices. Personal contact with these providers—through referrals, visits, or colleagial gatherings—is critically important. It is particularly helpful to visit the community practice settings of CAM providers, who may include chiropractic physicians, herbalists, massage therapists or shamen. Where feasible, it would be worthwhile to gain personal experience in the therapy. Developing a friendly professional relationship with these providers may offer the basis for effective collaborative patient care

buillding on clinical experience

Conventional health professionals may be relieved to find that that they can build on previously learned skills and experience in shifting to integrative health care. New skills, abilities, and knowledge may be incorporated with conventional clinical skills, diagnostic abilities, and knowledge under a new conceptual framework.

As with any clinical care, it remains important to record clinical observations about negative and positive outcomes, including patient satisfaction with both complementary/alternative and conventional therapies. This information can provide a base of experience that will guide future interventions and referral choices and perhaps lead to the development of ideas for research projects.

developing professional networks

Professional development will benefit from the support of like-minded colleagues, both locally and through national professional organizations. These support systems should include interdisciplinary networks. Such affiliations provide opportunities to share experience, address common issues and seek additional education and training. They may also lead to increased appreciation of the broader societal issues that accompany the integration of CAM with conventional care, including the need for political, regulatory and organizational changes.

additional resources needed

Adequate resources are an obvious requirement for successfully integrating a practice. Investments of time and money vary widely, depending on the model of integration and the types of education, training, personnel, facilities, or equipment desired. The required education may require significant amounts of time and money, and some models of integration involve increased costs for facilities or equipment, such as massage tables or herbal-information databases. These investments may often be made feasible by incorporating them at a pace suitable to the provider.

conclusion

Integrative medicine is a visionary concept taking form in a number of directions around the United States. As many sectors of society (patients, providers, third party payers, government) seek answers to the problems of modern western medicine (cost, efficacy, safety, access, cultural limits) leaders in integrative medicine have led the way and continue to emerge. Many of these innovators have had to take considerable risks, often standing alone on their professional reputations.

Recent seekers of integrative health care have more tools and support at their disposal than ever. Attitudes are changing and experience with CAM therapies is growing along with opportunities for research. The extent to which licensed providers can offer new services to patients will depend on the legal, regulatory and political environment. Despite challenges, many creative solutions are being tested by integrative providers attending to the business of clinic administration and the pursuit of accessible, affordable health care for a broad array of potential patients. There are many sound arguments for moving toward integrative health care, and the human heart will always lead the way.

references

Ang-Lee, M. K., Moss, J., & Wuan, C. S. (2001). Herbal medicines and perioperative care. *Journal of the American Medical Association*, 286:208-216.

Astin, J. A. (1998). Why consumers use alternative medicine: results of a national study. *Journal of the American Medical Association,* 279:1548-1553.

Astin, J. A., Ariane, M., Pelletier, K. R., Hansen, E., & Haskell, W. L. (1998). A review of the incorporation of complementary and alternative medicine by mainstream physicians. *Archives of Internal Medicine*, 158:2303-2310.

Babyak, M., Blumenthal, J. A., Herman, S., Khatri, P., Doraiswamy, P., Moore, K., & et al. (2000). Exercise treatment for major depression: maintenance of therapeutic benefit at 10 months. *Psychosomatic Medicine* 62:633-638.

Bair, Y. A., Gold, E. B., Greendale, G. A., Sternfeld, B., Adler, S. A., Azari, R., & et al. (2002). Ethnic differences in use of complementary and alternative medicine at midlife: Longitudinal results from SWAN participants. *American Journal of Public Health*, 92:1832-1840.

Barnes, J., Abbot, N. C., Harkness, E. F., & Ernst, E. (1999). Articles on complementary medicine in the mainstream medical literature. *Archives of Internal Medicine,* 159:1721-1725.

Barnes, P. M., Powell-Griner, E., McFann, K., & Nahin, R.L. (2004, May 27). Complementary and alternative medicine use among adults: United States, 2002. *Advance data from vital and health statistics, 343,* 1-19. Hyattsville, Maryland: National Center for Health Statistics.

Barrett, B. (2003). Alternative, complementary, and conventional medicine: is integration upon us? *The Journal of Alternative and Complementary Medicine*, 9:417-427.

Bausel, R. B., Lee, W.-L., & Berman, B. M. (2001). Demographic and health-related correlates of visits to complementary and alternative medical providers. *Medical Care,* 39(2):190-196.

Bell, I., Caspi, O., Schwartz, G., Grant, K., Gaudet, T., Rychener, D., & et al. (2002). Integrative medicine and systemic outcomes research. Issue in the emergence of a new model for primary health care. *Archives of Internal Medicine*, 162:133-140.

Berman, B. M. (2001). Complementary medicine and medical education. *British Medical Journal,* 322(7279):121-2.

Beyth, R. J., & Shorr, R. I. (1999). Epidemiology of adverse drug reactions in the elderly by drug class. *Drugs and Aging*. 3:231-9.

Bezold, C. (2001). Envisioning the future. In: N. Faass (Ed.), *Integrating complementary medicine into health systems* (pp. 708-718). Gaithersburg, MD: Aspen Publications.

Bower, H. (1998). Double standards exist in judging traditional and alternative medicine. *British Medical Journal*, 316:1694-5.

Bretherton, A., Day, L., & Lewis, G. (2003). Polypharmacy and older people. *Nursing Times*. 17:54-5.

Canfield, D. (2001) An Integrative Medicine Clinic in a Teaching Hospital. In: N. Faass (Ed.), *Integrating complementary medicine into health systems* (pp. 391-397). Gaithersburg, MD: Aspen Publications.

Carlston, M., Stuart, M. R., & Jonas, W. B. (1997). Alternative medicine instruction in medical schools and family practice residency programs. *Family Medicine*, 29:559-562.

Caspi, O. L., Sechrest, L., Pitluk, H. C., Marshall, C. L., Bell, I. R., & Nichter, M. (2003). On the definition of complementary, alternative and integrative medicine: societal mega-stereotypes vs. the patients' perspective. *Alternative Therapies in Health and Medicine,* 9:58-62.

Cassell, E. J. (1982). The nature of suffering and the goals of medicine. *New England Journal of Medicine*, 306:639-645.

Cohen, M. H. (2002). Legal issues in complementary and integrative medicine: A guide for the clinician. *Medical Clinics of North America*, 86:185-196.

Cohen, M. H., & Eisenberg, D. M. (2002). Potential Physician Malpractice Liability Associated with Complementary and Integrative Medical Therapies. *Annals of Internal Medicine,* 136(8):596-603.

Colley, C. A., & Lucas, L. M. (1993). Polypharmacy: the cure becomes the disease. *Journal of General Internal Medicine.* 5:278-83.

Coile, R. C. (1995). Chiropractic treatment: An alternative medicine becomes mainstream health care. *Health Trends*, 7:1-8.

Crock, R. D., Jarjoura, D., Polen, A., & Rutecki, G. W. (1999). Confronting the communication gap between conventional and alternative medicine: a survey of physicians' attitudes. *Alternative Therapies in Health and Medicine,* 5(2):61-6.

Curtis, P., Evans, P., Rowane, M., Carey, T., & Jackman, A. (1997). Training Generalist Physicians in Manual Therapy for Low Back Pain: Development of a Continuing Education Method. *The Journal of Continuing Education in the Health Professions,* 17:148-158.

Davidson, J. R. T., Abraham, K., Connor, K. M., & McLoed, M. N. (2003). Effectiveness of chromium in atypical depression: a placebo-controlled trial. *Biological Psychiatry,* 53:261-264.

DeBacquer, D. G., DeBacquer, G., Cokkines, D., Keil, U., Montaye, M., Ostor, E., & et al. (2004). Overweight and obesity in patients with established coronary heart disease: Are we meeting the challenge? *European Heart Journal*, 25:121-128.

Druss, B. G., Rosenheck, R. A. (1999). Association between use of unconventional therapies and conventional medical services. *Journal of the American Medical Association*, 282(7):651-656.

Eisenberg, D. M., Davis, R. B., Ettner, S. L., Appel, S., Wilkey, S., Van Rompay, M., & et al. (1998). Trends in alternative medicine use in the United States, 1990-1997: results of a follow up national survey. *Journal of the American Medical Association*, 280:1569-75.

Eisenberg, D. M., Kessler, R. C., Foster, C., Norlock, F. E., Calkins, D. R., & Delbanco, T. L. (1993). Unconventional Medicine in the United States—Prevalence, costs, and patterns of use. *New England Journal of Medicine*, 328:246-252.

Eisenberg, D. M., Kessler, R. C., Van Rompay, M. I., Kaptchuk, T.J., Wilkey, S. A., Appel, S., & et al. (2001). Perceptions about complementary therapies relative to conventional therapies among adults who use both: results from a national survey. *Annals of Internal Medicine*, 135(5):344-51.

Enqvist, B., & Fischer, K. (1997). Preoperative hypnotic techniques reduce consumption of analgesics after surgical removal of third mandibular molars. *International Journal of Clinical and Experimental Hypnosis,* 45(2):102-8.

Ernst, E. (2001). *The desktop guide to complementary and alternative medicine: An evidence-based approach.* Edinburgh: Mosby.

Faass, N. (Ed.) (2001). *Integrating complementary medicine into health systems.* Gaithersburg, MD: Aspen Publications.

Frenkel, M., & Ben Arye, E. (2001). The growing need to teach about complementary and alternative medicine: questions and challenges. *Academic Medicine*, 76(3):251-4.

Furnham, A. (1996). Why do people choose and use complementary therapies? In E. Ernst (Ed), *Complementary medicine: An objective appraisal* (pp. 71-88). Oxford: Butterworth-Heinemann.

Garr, D. R, Lackland, D. T., & Wilson, D. B. (2000). Prevention education and evaluation in U.S. medical schools: a status report. *Academic Medicine* 75:S14-S21.

Gaylord, S., & Coeytaux, R. (2002). Complementary and Alternative Therapies in Family Practice. In Sloane, P. D., Slatt, L. M., Ebell, M.H., Jacques, L.B. (Eds.), *Essentials of Family Practice* (pp.97-113). Philadelphia: Lippincott Williams & Wilkins.

Giordano, J., Boatwright, D., Stapleton, S., & Huff, L. (2002). Blending the boundaries: Steps toward an integration of complementary and alternative medicine in to mainstream practice. *Journal of Alternative and Complementary Medicine,* 8:897-906

Gordon, J. (1996). Alternative medicine and the family physician. *American Family Physician*, 54:2205-2212.

Grant, D. J., Bishop-Miller, J., Winchester, D. M., Anderson, M., & Faulkner, S. (1999). A randomized comparative trial of acupuncture versus transcutaneous electrical nerve stimulation for chronic back pain in the elderly. *Pain,* 82:9-13.

Herre, H. P., & Faass, N. (2001). A multi-specialty group practice: East-West health centers. In: N. Faass (Ed.), *Integrating complementary medicine into health systems* (pp. 385-390). Gaithersburg, MD: Aspen Publications.

Holroyd, K. A., Mauskop, A. (2003) Complementary and alternative treatments. *Neurology*, 60, Supplement 2, S58-S62

Institute of Medicine. (1999). *To Err is Human: Building A Safer Health System*. Washington DC: National Academy Press.

Josefson, A., & Kreuter, M. (2003). Acupuncture to reduce nausea during chemotherapy treatment of rheumatic diseases. *Rheumatology (Oxford).* 42(10):1149-54.

Kemper, K.J., Sarah, R., Silver-Highfield, E., Xiarhos, E., Barnes, L., & Berde, C. (2000). On pins and needles? Pediatric pain patients' experience with acupuncture. *Pediatrics,* 105:941–947.

Kessler, R. C., Davis, R. B., Foster, D. F., Van Rompay, M., Walters, E., Wilkey, S., & et al. (2001). Long-term trends in the use of complementary and alternative medical therapies in the United States. *Annals of Internal Medicine*, 136:262-268.

Kirsch, I., Montgomery, G., & `Sapirstein, G. (1995). Hypnosis as an adjunct to cognitive behavioural psychotherapy: A meta-analysis. *Journal of Consultative and Clinical Psychology*, 63:214-220.

Kligler, B., Gordon, A., Stuart, M., & Sierpina,V. (2000). Suggested curriculum guidelines on complementary and alternative medicine: recommendations of the Society of Teachers of Family Medicine Group on Alternative Medicine. *Family Medicine,* 32(1):30-3.

Lazarou, J., Pomeranz, B. H., & Corey, P. N. (1998). Incidence of adverse drug reactions in hospitalized patients. *Journal of the American Medical Association*, 279:1200-1205.

Markman, M. (2002). Safety issues in using complementary and alternative medicine. *Journal of Clinical Oncology*, 20:39s-41s.

Marlow, S. P., & Stoller, J. K. (2003). Smoking Cessation. *Respiratory Care,* 48(12):1238-54.

Matchar, D. B. (2003). Acute management of migraine: Highlights of the US Headache Consortium. *Neurology*, 60, Supplement 2, S21-S23.

Moore, N. G. (1997). King County natural medicine clinic: Public funding for integrated medicine. *Alternative Therapies in Health and Medicine*, 3:32-33.

Muscat, M. (2000). Beth Israel's Center for Health and Healing: realizing the goal of fully integrative care. *Alternative Therapies in Health and Medicine,* 6(5):100-1.

Peikert, A., Wilimzig, C., & Kohne-Volland, R. (1996). Prophylaxis of migraine with oral magnesium: results from a prospective, multi-center, placebo-controlled and double blind randomized study. *Cephalalgia*, 15:257-263.

Pelletier, K. R., Astin, J. A., & Haskell, W. L. (1999). Current trends in the integration and reimbursement of complementary and alternative medicine by managed care organizations and insurance providers: 1998 update and cohort analysis. *American Journal of Health*, 14:125-133.

Piscitelli, S. (2000). Preventing dangerous drug interactions. *Journal American Pharmacy Association*, 40(5 suppl 1):S44-45.

Piscitelli, S. C., Burstein, A. H., & Chaitt, D. (2002). Endinavir concentrations and St. John's Wort. *Lancet*, 255:547-550.

Poynard, T., Munteanu, M., Ratziu, V., Benhamou, Y., Dimartino, V., Taleb, J., & et al. (2002). Truth survival in clinical research: an evidence-based requiem. *Annals of Internal Medicine*, 136:888-895.

Pristave, R. J., Becker, S., & McCarthy, L. I. (1995). Development of provider networks for specific diseases. *Health Care Innovations*, Sept-Oct, 9-3.

Rakel, D. & Weil, A. (2003). Philosophy of integrative medicine. In D. Rakel (Ed.), *Integrative Medicine* (pp. 3-10). Philadelphia: Saunders.

Relman, A. S., & Angell, M. (2002). America's other drug problem: how the drug industry distorts medicine and politics. *New Republic*, 227(25):27-41.

Resch, K.I, Ernst E., and Garrow, J. (2000). A randomized controlled study of reviewer bias against an unconventional therapy. *Journal of the Royal Society of Medicine*. 93:164-167.

Richmond, R., & Zwar, N. (2003). Review of bupropion for smoking cessation. *Drug and Alcohol Review*, 22(2):203-20.

Sampson, W. (2001). The need for educational reform in teaching about alternative therapies. *Academic Medicine*, 76(3):248-250.

Shang, C. (2001). The future of integrative medicine. *Archives of Internal Medicine*, 161:613-614.

Shults, C. W., Oakes, D., Kieburtz, K., Beal, M. F., Haas, R., Plumb, S., & et al. (2002). Effects of coenzyme Q10 in early Parkinson disease: evidence of slowing of the functional decline. *Archives of Neurology*, 59:1541-1550.

Sierpina, V. (2001). *Integrative Health Care* (p17). Philadelphia: F. A. Davis.

Singer, A. J. (2001). Alternative medicine—why should we care? *Academy of Emergency Medicine*, 1:65-7.

Snyderman, R. & Weil, A. (2002). Integrative medicine. *Archives of Internal Medicine* 162:395-397.

Soares, K. V. S., & McGrath, J. J. (2001). Vitamin E for neuroleptic-induced tardive dyskinesia (Cochrane Review). In: *The Cochrane Library*, Issue 2, 2004. Chichester, UK: John Wiley & Sons, Ltd.

Somri, M. S., Vaida, S. J., Sabo, E., Yassain, G., Gankin, I., & Gaitini, L., A. (2001). Acupuncture versus ondansetron in the prevention of post-operative vomiting. A study of children undergoing dental surgery. *Anaesthesia*, 56:927-932.

Starfield, B. (2000). Is US health really the best in the world? *Journal of the American Medical Association*, 284:483-485.

Stewart, W. B., & Faass, N. (2001). Hospital-based integrative medicine: The Institute for Health and Healing. In: N. Faass (Ed.), *Integrating complementary medicine into health systems* (pp. 406-412). Gaithersburg, MD: Aspen Publications.

Triano, J. J., Rashbaum, R. F., Hansen, D. T, & Raley, B. (2001). The integrative multidisciplinary spine center: The Texas Back Institute. In: N. Faass (Ed.), *Integrating complementary medicine into health systems* (pp. 398-405). Gaithersburg, MD: Aspen Publications.

Veenstra, J. (2000). Harvard Medical School establishes integrative medicine division. Herbalgram, 50.

Weiger, W., Smith, M., Boon, H., Richardson, M., Kaptchuk, T., & Eisenberg, D. (2002). *Annals of Internal Medicine*, 137:889-903.

Weil, A. (2000). The significance of integrative medicine for the future of medical education. *American Journal of Medicine*, 108:441-443.

Wetzel, M. S., Eisenberg, D. M., Kaptchuk, T. J. (1998). Courses Involving Complementary and Alternative Medicine at US Medical Schools. *Journal of the American Medical Association,* 280:784-787.

White, A. R., & Ernst, E. (2000). Economic analysis of complementary medicine. A systematic review. *Complementary Therapies in Medicine*, 8:111-118.

White, A. R., Resch, K.-L., & Ernst, E. (1997). Complementary medicine: use and attitudes among GPs. *Family Practice*, 14:302-306.

White House Commission on Complementary and Alternative Medicine Policy. Final Report. Health and Human Services, August 11, 2002. http://www.whccamp.hhs.gov/finalreport.html

Yunus, M., Bennett, R., Romano, T. J., et al. (1997). Fibromyalgia consensus report: Additional comments. *Journal of Clinical Rheumatology*, 3:324—327.

Zappa, S. B. (2001). Integrative medicine at Memorial Sloan-Kettering Cancer Center. In: N. Faass (Ed.), *Integrating complementary medicine into health systems* (pp. 429-434). Gaithersburg, MD: Aspen Publications.

APPENDIX: MODELS OF INTEGRATIVE CARE

	THE INFORMED CLINICIAN	THE INFORMED NETWORKING CLINICIAN	THE INFORMED CAM-TRAINED CLINICIAN	MULTIDISCIPLINARY INTEGRATIVE GROUP PRACTICE	INTERDISCIPLINARY INTEGRATIVE GROUP PRACTICE	HOSPITAL-BASED INTEGRATION	INTEGRATIVE MEDICINE IN AN ACADEMIC MEDICAL CENTER
EXAMPLES	Family medicine physician becomes knowledgeable about herbal/supplement therapies and acupuncture for most common problems encountered: arthritis, headache, and heart disease. Refers patients to herbalist for consultation but may retain decision-making for herbal choices. Refers patients for acupuncture for pain syndromes when conventional therapy is sub-optimal.	University of North Carolina Headache Clinic, Chapel Hill: Neurologist integrates skills and services of local CAM practitioners for patients with migraine and chronic daily headache. Policies of conventional institution limit CAM practitioner credentialing for on-site treatment.	Established, conventionally trained MD in general practice becomes trained in acupuncture, taking six-month course with certification provided by nationally recognized training organization.	The Texas Back Institute, Plano, TX: Group consists of an orthopedist, an osteopath, family practitioner, massage therapist, and biofeedback therapist in same facility for back pain management.	East-West Health Centers, Denver, CO: Nine conventional providers (4 family practitioners, 2 internists, 1 osteopath, 1 dermatologist, and 1 physiatrist); and 6 CAM providers (1 herbalist, 1 chiropractor, 1 naturopath, 1 acupuncturist, 1 MSW with hypnosis and NLP skills, and 1 homeopath).	Planetree Programs Institute for Health & Healing, California Pacific Medical Center, San Francisco. Sloan-Kettering Cancer Center, NewYork. (Zappa, 2001)	UNC Program on Integrative Medicine cooperates with Family Medicine Neurology, Physical Medicine & Rehabilitation, ObGyn to develop teaching program in CAM involving students, residents, faculty, and community practitioners. CAM consultation service develops from this effort providing CAM educational and service resources to wider medical community.
MAJOR ADVANTAGES	Improved patient education; broader choice of therapies; informed referrals to CAM providers; possibility of CAM-directed self-care for the provider.	Broader range of treatment options; autonomy of each member of integrative team; choice of level of interaction with each practitioner; continued interactions contingent on outcomes.	Integration of CAM treatment by caregiver trained in conventional care; outcomes and documentation under control of caregiver for that treatment; development of experience in treatment applications.	High focus if chosen, e.g., women's health, pain, geriatrics. Lower overhead possible.	More than one focus of CAM in integrated care; mind-body approaches; body work; herbals and supplements; expanded educational opportunities for practitioners; one-stop care for patients; financial cross-coverage depending on arrangements; reputation enhancement; community outreach programs by multiple staff members; improved negotiating position with insurers.	Improved patient experience. Improved staff working conditions.	Opportunities for research and teaching.
MAJOR LIMITATIONS	Provider may not be aware of subtle distinctions guiding CAM choices, limited feedback from CAM providers; difficulty tracking outcomes specifically related to integrated therapies.	Limited control of documentation; possible legal risks associated with referrals.	Need for some documentation of training or credentialing; legal risks may increase.	Financial vulnerability; credibility to referral sources.	Group consensus on goals and timelines may be hard to achieve; financial inequities may create conflict.	Acceptance by medical, nursing, or support staffs (often one or more are opposed on principle or for other reasons); difficulty credentialing CAM providers within hospital guidelines.	Difficulty credentialing CAM providers; high overload.
MOTIVATION	To satisfy patient inquiry in major areas of practice.	Improved patient health practices through specific CAM therapies.	Expanded treatment options; billable procedure; interest in energy work.	Group seeks to focus on chronic pain, especially in the elderly.	Care provided for general medical problems with slight emphasis on musculoskeletal problems.	Improve patient and family experience of health care in inpatient setting; provide integrated care.	Integrative approach to patient care, teaching and research.
TIME REQUIRED	Personal education; meeting CAM practitioners; developing referral agreements—extra 2-6 hrs/week.	Personal education; meeting CAM practitioners; developing referral agreements—extra 2-6 hrs/week.	Personal education; 3 full weeks away from service plus videotape, reading reviews--10 hrs/week.	No additional time, since associates bring their training to the table.	No additional time, since each brings his/her training to the table.	Planning and convincing staff.	No additional time, since caregivers and staff have compelling interest that serves their academic goals.

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COST	Books; on-line herbal information service; conferences—$2,000	Books; on-line CAM services; seminars; professional meetings —$4,000.	Books; travel; equipment; time away from work—$10,000.	Start-up; locate space; hire staff; develop business plan; increased malpractice insurance.	Evolving system of this size needs flexibility in space allocation and additional overhead for support staff.	Modest consultation fees; larger but still modest renovation costs; staff training.	Training and staff support costs; justifications required.
CREDENTIALS REQUIRED	None	None	Desirable	Yes, by all at some point.	Yes, by all at some point as available.	Yes for CAM providers, but may be independent of licensure issues if administration and medical staffs agree.	Yes, by all, prior to joining staff.
RISKS	Small to reputation and patients.	Small to reputation and patients; overall legal risk slightly increased.	Small to reputation and patients; overall legal risk slightly increased.	Some financial and legal.	Some financial, but less than a smaller group; increased legal.	Reputation of the entire organization depending on community perception.	Financial, legal, administrative time, reputation within the medical center.
LIMITING FACTORS	More time needed per patient visit for education.	More time needed per patient visit for education about reasons for CAM referral, reassurances, follow-up. Extensive documentation of outcomes required.	Time, money, reimbursement, legal risks. More extensive documentation of outcomes needed.	Assumptions about healing may differ between group members. Uncertain role each plays in caregiving. Financial arrangements and risk/reward assignment. Uneven reimbursement by insurers.	Assumptions about healing may differ considerably. Uneven reimbursement by insurers.	Difficulty in reaching agreement among participants; financial issues.	Heavy reliance on MDs to practice CAM, multiple administrative umbrellas with associated policies; CAM provider credentialing: multiple interest groups competing for limited resources.
BENEFITS	Improved patient care; physician reputation with patients may increase.	Improved patient care through patient empowerment and developing attitudes of self-healing.	Improved patient care; caregiver reputations may be enhanced; research; increased referrals.	Early detection of non-responders to conventional care results in earlier integration of CAM therapies; reputation enhancement; highly focused effort with treatment protocols and outcome definition possible.	Improved patient care; reputation enhancement if successful.	Improved patient care; reputation ehancement if successful; retention of nursing and service staffs; increased competitive edge.	Improved patient care; exposure of students and residents to CAM; multiple opportunities for basic and clinical research.
EVOLUTION	Obtain further training; contact local CAM providers; develop educational materials for patients; train staff to educate patients; provide patients on-line access to herbal information; use herbals/ supplements in self-care.	Pursue further training; provide on-line access to CAM information services for patients; begin research in CAM; begin to use CAM in self-care; streamline referral protocols (clinical pathways).	Expand indications for CAM therapies with time and experience; career shift to include CAM training; training in other CAM modalities; partnering with others for additional CAM treatments.	Expand staff to include other CAM providers (herbalist, Reiki healer, etc.); expand treatment focus to other conditions/ age groups; develop options (e.g., group therapy) to empower patients by support and shared information.	Expand staff to include other CAM providers; discover areas of particular expertise and success.	Growth of the concept; pilot projects, followed by expanded implementation to multiple parts of institution.	Expansion to medical center departments and divisions in areas of teaching and patient care through consultation and research; outsourcing CAM therapies to community when center bylaws cannot accommodate CAM providers.
FEEDBACK	Patients, other caregivers, personal experience.	Patients, other caregivers, personal experience.	Patients, other caregivers, personal experience, HMOs.	Patients, other caregivers, HMOs.	Patients, other caregivers, HMOs.	Patients, staff, other hospitals, HMOs.	Patients, students, residents, faculty, administrators, press, public, HMOs.

Integrating Complementary & Alternative Therapies with Conventional Care

The Program on Integrative Medicine

Department of Physical Medicine & Rehabilitation of the School of Medicine

University of North Carolina at Chapel Hill