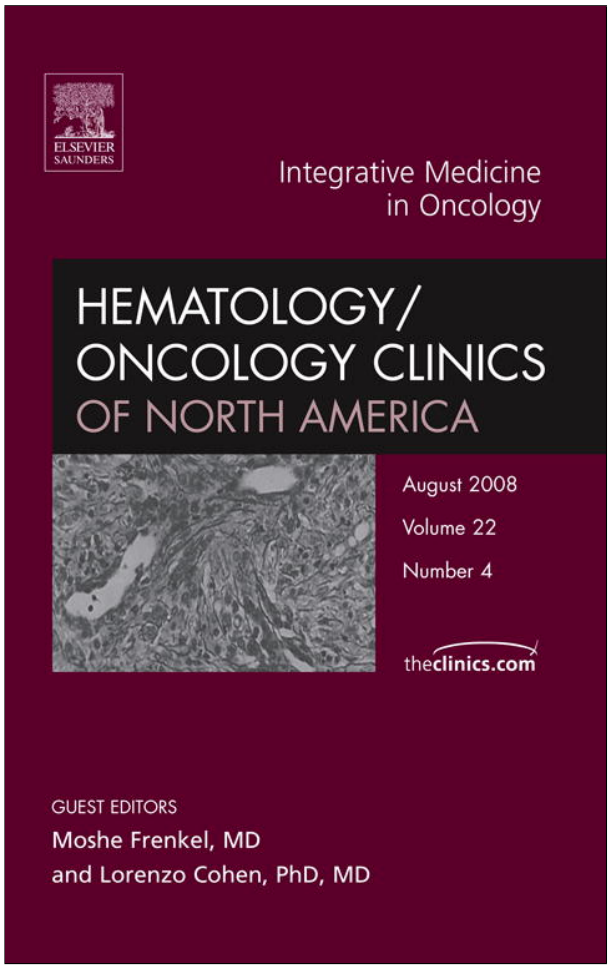

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Incorporating Complementary and Integrative Medicine in a Comprehensive Cancer Center

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With the increasing interest in complementary and integrative medicine (CIM) as an adjunct to conventional therapy among patients and families affected by cancer, more medical clinics and cancer centers are trying to address public interest and demand by providing CIM services. Despite a few attempts to organize and incorporate CIM services into the current health care system, the best method for integrating CIM therapy has not yet been established. Unfortunately, there is also limited research on the integration of CIM into conventional cancer care.

In 2002, the Federation of State Medical Boards in the United States developed and adopted new guidelines for the use of complementary and alternative therapies in medical practice [1]. These guidelines include recommendations for state medical boards on how to educate and regulate physicians who use CIM in their practices. These guidelines also suggest an organizational structure for integrating accepted standards of care with legitimate medical uses of CIM. In the United Kingdom, reports of CIM integration were mentioned in the British Medical Association's guide for general practitioners on referring patients to CIM practitioners, which is an important source of information on referral patterns [2]. This document relates primarily to the British health care system, however, and is narrow in scope. The guide does not address important universal issues related to the integration process, such as knowledge on CIM efficacy and safety; provider referral patterns and appropriate patient triage; CIM provider selection and accreditation; and communication-related issues between patients, CIM providers, and physicians.

Most of the information on integrative medicine centers in the United States comes from the recently established centers that are affiliated with hospitals around the country. The experience from these centers is informative [3]. Sporadic initiatives in primary care are mentioned, but few relate to the integration process for CIM [4–7].

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A few theoretic models of CIM integration were recently published. Leckridge [8] proposed a consumer-supplier model based on varying degrees of regulation and a patient-centered model emphasizing a shift in the balance of power from the professionals to the patients. Boon and colleagues [9] proposed seven models of team-oriented health care practice along a continuum that moves from nonintegrative parallel practice to fully integrative practice, with multiple situations that differ in philosophy, structure, process, and outcomes. The nonintegrative parallel practice side of the continuum is characterized by independent health care practitioners and each practitioner performs his or her job within his or her formally defined scope of practice. In this situation, the CIM practitioner has no connection or communication with the conventional health care professional. The fully integrative approach to patient care consists of an interdisciplinary, nonhierarchical blending of both conventional medicine and CIM health care and support. Fully integrated practice is based on a specific set of core values that include treating the whole person, assisting the innate healing properties each person possesses, promoting health and wellness, and preventing disease. Fully integrated practice requires consensus building between all health care professionals (conventional and nonconventional) and the patient, mutual respect, and a shared vision of health care that permits each practitioner and the patient to contribute their particular knowledge and skills within the context of a shared, synergistically charged plan of care [9]. Mann and colleagues [10] similarly described seven different models of integration, ranging from the informed individual practitioner to the more complex interdisciplinary models that involve various levels of integrated patient management through a partnered arrangement. All these models bring a theoretic basis to the process of integration relating to knowledge, credentials, location, and communication patterns. The main weakness of all these descriptions of team health care practices, however, is that they are based on theoretic assumptions and not derived from scientific data or systematic studies.

The integration of CIM practices, therapies, and beliefs with conventional health care practices can expand available treatment options, improve patient and provider satisfaction, better balance the deficiencies in each system, and lead to improved therapeutic outcomes [10]. Despite the interest of the general public, increased number of CIM practitioners, and enhanced interest among physicians to learn more about CIM, the process of integrating CIM into the conventional setting is slow [11] because of multiple barriers and obstacles. These obstacles include financial disincentives [12–15]; fear or concern with legal issues [12,16–18]; communication gaps between CIM providers, conventional health care staff, and conventional physicians [19]; identifying CIM providers and integrating them into the system; and lack of access to proper education about CIM [12,20–22]. Other obstacles include conventional system resistance, differences in beliefs about healing, limited information on clinical outcomes, and lack of experience and knowledge on how to overcome these obstacles [10,12,21–31]. Observing practices and identifying what can be

learned from those practices helps identify ways to overcome these obstacles and barriers so the integration process can become successful [10].

THE PROCESS OF INTEGRATING COMPLEMENTARY AND INTEGRATIVE MEDICINE IN CANCER CARE: A MODEL IN A COMPREHENSIVE CANCER CENTER

The best process for incorporating CIM into conventional health care is complex and not well defined. The experience is limited and there is currently no consensus on the best model. Moreover, when the disease being treated is cancer, the situation becomes even more complex. All the factors mentioned previously are relevant in a cancer setting and other factors also enter the situation. Additional issues relevant in a cancer setting are the already high use of extreme CIM practices, intense fear of death, experiential sense of existential crisis, high degree of uncertainty, complex treatments, often unclear disease course and prognosis, and possible interactions between CIM and conventional treatments. These are just a few factors among many that make CIM use in cancer care even more problematic.

Little has been written about integrating CIM into cancer care because the field of integrative oncology is in its infancy. Described next is a model that has gradually developed in the past few years of integrating CIM services in a major comprehensive cancer center based on previous experience with integrating CIM in other primary care settings.

The University of Texas M.D. Anderson Cancer Center is located in Houston, Texas, on the campus of the Texas Medical Center. M.D. Anderson is devoted exclusively to cancer patient care, research, education, and prevention. The doctors and researchers at M.D. Anderson are renowned for their ability to treat all types of cancer, including rare or uncommon diseases, and patients with challenging prognoses. The institution is one of the nation's original three comprehensive cancer centers designated by the National Cancer Act of 1971 and is one of 39 National Cancer Institute–designated comprehensive cancer centers today. More than 79,000 people with cancer receive care at M.D. Anderson annually, and more than 27,000 of them are new patients. About one third of these patients come from outside Texas. More than 11,000 patients participated in therapeutic clinical research exploring novel treatments in Fiscal Year 2006, making it the largest such program in the nation.

Close to a decade ago, a survey conducted at M.D. Anderson revealed that 83% of patients used some form of CIM [32]. Because of patient interest and demand, in 1998 M.D. Anderson opened the Place. . . *of wellness*, the first onsite facility at a National Cancer Institute Comprehensive Cancer Center to provide CIM therapies to patients and caregivers who wanted to explore complementary therapy options. Over the next decade, this small clinical setting gradually expanded from a small facility to a large operation. Currently, more than 40 unique programs are offered in two locations on M.D. Anderson's campus, with an average of 145 complementary therapies and program opportunities conducted each month, including acupuncture, massage therapy,

nutrition, music therapy, meditation, yoga, and aromatherapy. In 2006, more than 8500 people attended classes, with 55,000 contacts. Approximately 45% of the therapies and classes are related to stress reduction and mind-body therapy. Patients are referred to the services at Place... *of wellness* by their health care team or they self-refer, except for acupuncture or massage. Other than acupuncture and massage, all services are free of charge. Although most programs are held at one of the two locations on the main campus of M.D. Anderson, some programs are available at the bedside and in different clinical centers.

The CIM programs are facilitated by over 50 M.D. Anderson faculty, staff, and community practitioners who are credentialed in their respective areas of expertise. A comprehensive process is used to credential CIM practitioners to incorporate their expertise into the care practices provided to patients, which has been described in detail elsewhere [33].

A key to the success of this program is that it grew gradually with full institutional support. It was critical in the early stages to involve senior leadership at the institution and ensure that they supported integrative oncology at M.D. Anderson. It was also important to involve key stakeholders in any area overlapping with integrative medicine to ensure that the programs expanded in a collaborative and not competitive fashion. It was also critical to involve the institutional legal group and institutional compliance to ensure that all programs followed institutional requirements and regulations. It is also critical during the founding and growth phases to involve patients in the decision-making process, because it is being built for them and the available programs must meet their needs. As the program grew and became an indispensable service for patients and caregivers, it became clear that more formalized physician-led consultation services were needed to meet patient needs.

Individual Complementary and Integrative Medicine Consultations

Over the years there was an increased interest and patient demand for CIM. In addition, both patients and health care professionals at M.D. Anderson were in need of a more formalized integrative medicine consultation. As CIM use increased it became clear that a physician with extensive knowledge in CIM in oncology was needed to develop a consultation service to guide patients in the proper use of CIM related to their disease process.

In 2007, a new integrative medicine clinic opened through the Supportive Care Center at M.D. Anderson. This clinic started by providing an individual CIM consultation service to patients. The consultation is offered to patients who want advice on integrating CIM into their care or if the physician thinks that a consultation would benefit the patient. The basic principles of patient-centered care guides the consultation including (1) paying attention to the patient's psychologic and physical needs; (2) allowing the patients to disclose their concerns; (3) conveying a sense of partnership; and (4) actively facilitating patient involvement in the decision-making process [34].

The consultation addresses the main concerns that patients have about CIM use during and after their cancer treatment. During the consultation,

patients can share concerns and expectations about CIM and the clinic staff addresses these issues in a way that empowers patients during their cancer journey. The consultation involves discussing CIM use with the patient and their family and facilitating an educated use of different complementary medicine modalities.

Using reliable sources of information and complementary therapies individualized to each patient helps reduce the uncertainty and anxiety experienced by patients and their families during and after cancer therapy. A physician can make a consultation request through an easy online process that is similar for all other consultation requests made in the institution. The patient and their caregivers, family members, or significant others are seen in a consultation room designed specifically to provide a healing environment that uses soft lighting, relaxing music, aromatherapy, and specially designed furniture.

The consultation consists of an assessment and review of the patient's medical history and a physical examination. The physician determines what conventional treatments have been tried, failed, or rejected because of safety, quality of life, cost, or another issue. The following questions are considered during this portion of the consultation: Is the patient coming for consultation during radiation therapy or chemotherapy or receiving other forms of conventional therapy? What types of conventional therapies are being used? What are the current physical and emotional problems that the patient and their caregivers are experiencing? What are the main reasons for the consultation? Patients sometimes come to the consultation with high expectations for cure or marked improvement in their condition by using CIM, while ignoring some important signs and symptoms that first require the attention of a conventional approach. For example, a patient may want to try an herb or supplement to counteract their extreme fatigue; however, the fatigue could be caused by severe anemia, which could require a blood transfusion.

A discussion of the patient's psychologic-social-spiritual perspectives is a crucial component of the consultation that helps the clinic staff to establish rapport with the patient and their family members or significant others. During this stage, the physician identifies the patient's beliefs, fears, hopes, expectations, and experience with CIM; explores what levels of support the patient relies on from their family, community, and friends; acknowledges the patient's spiritual and religious values and beliefs, including the patient's views about quality of life and end-of-life issues; and seeks to understand how all of these factors impact the patient's health care choices.

The consultation also involves an integrative medicine evaluation, and after a review of the patient's current and previous CIM use, the physician advices on how to combine different complementary medicine treatments into the current treatment plan. Important questions include: What types of therapies were used? How were the therapies used? Why were they used? A discussion of the patient's previous experience with CIM and current expectations from CIM is necessary for devising a plan for CIM use that the patient and their family can actively participate in developing.

Because of the intense emotions, deep belief systems, and often existential crises disclosed during the consultation, the consultations can become extensive and require empathy, compassion, and active listening from the physician requiring at times a prolonged visit of 60 to 120 minutes. The consultation process may also involve one or all of the following:

- A literature search to determine the state of the evidence for certain treatments when needed
- A review of what is found from previous research related to the scientific literature about integrative treatment for the patient's specific condition (eg, what is known on integrative therapies for advanced liver tumors)
- A review of what the patient is taking (which therapies have support in the scientific literature, and which do not? If there is support, what kind of evidence [randomized trials, single arm trials, case reports, epidemiologic data, and so forth])
- A review of the possible interactions with current medications, with pharmacist involvement, if needed
- A review of the patient's diet and supplements, with nutritionist involvement, if needed
- A discussion of the physician's current knowledge or findings with the patient and their family members or significant others
- A mutually agreed on plan
- Involvement of the Place... of wellness and referrals to CIM therapies and classes that the physician thinks will benefit the patient and their family
- A follow-up visit, usually after 6 to 12 weeks, to review progress or if any new issues have arisen (Fig. 1).

Each consultation is fully documented in the patient's electronic medical record, and each practitioner who works with the patient at the institution can review the details of this consultation process. If any questions arise, any member of the health care team can easily reach the integrative medicine physician by pager, telephone, or email.

The Integrative Medicine Consultation Clinic

At present, the integrative medicine clinic staff consists of an integrative medicine physician, holistic nurse, and integrative nutritionist. A team of CIM practitioners and selected conventional medicine professionals support the clinic operation with advice by telephone, emails, and a weekly meeting where an extended integrative medicine team meets to discuss complex situations and unique patient concerns.

The holistic nurse gathers basic history information from the patients before the physician's evaluation and the administrative and specific nursing tasks. The holistic nurse also provides "emotional first aid" when necessary by compassionately and empathetically listening and, at times, using integrative techniques, such as relaxation, imagery, reflexology, and therapeutic touch, to help patients and their family members, partners, and caregivers, especially when the patients are in distress. In addition, the nurse is the main contact

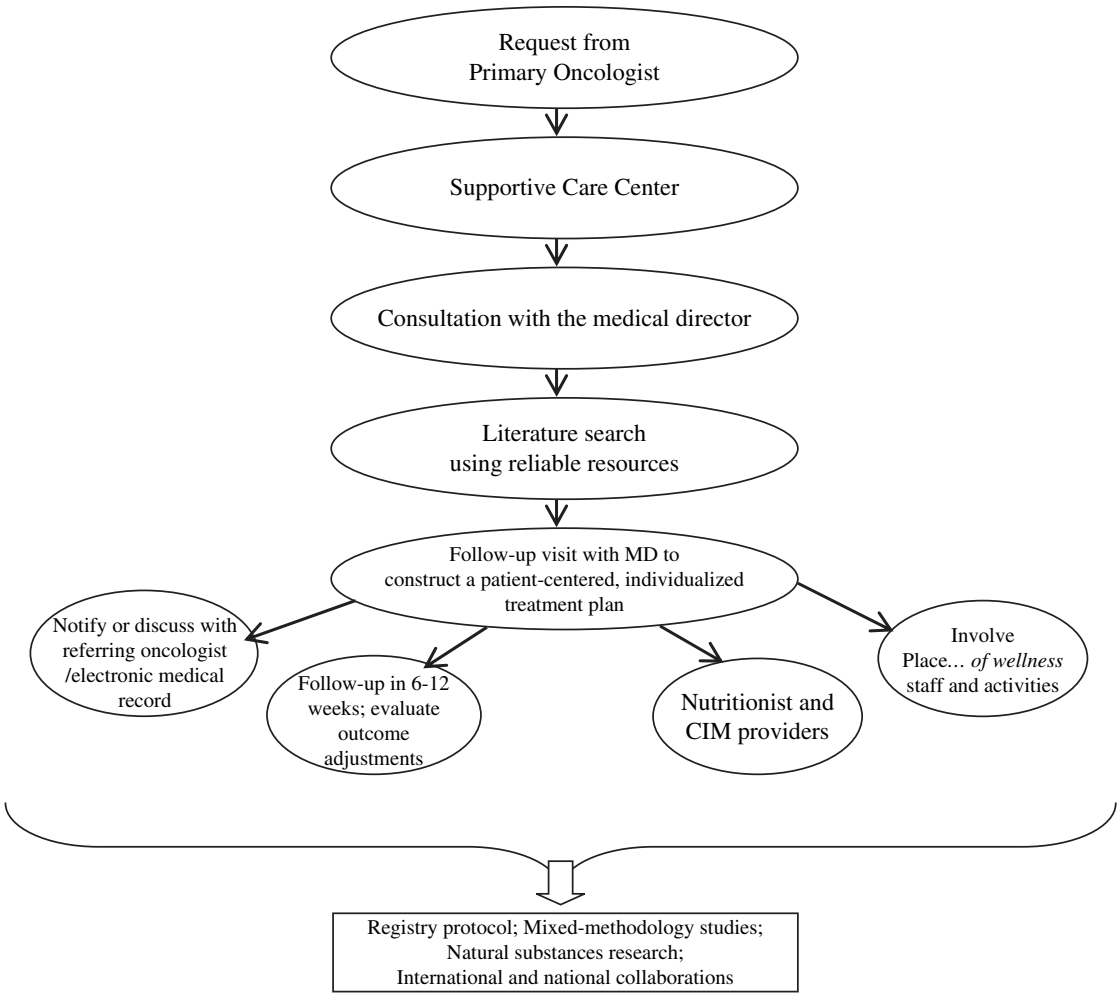

Fig. 1. Integrative medicine consultation process.

person if a patient requires additional information between visits. If the nurse cannot address the questions, they are brought to the physician's attention.

The integrative nutritionist, a registered dietician, plays a critical role in supporting the evolving clinical services. The nutritionist's main tasks include evaluating, assessing, and addressing patients' individual nutritional needs and concerns; involving family members in the process; evaluating diets and nutritional supplements the patient is already using; defining misconceptions and controversies related to diet, nutrition, supplements, and other natural products and developing strategies and guidelines to address them; and assessing research related to nutrition and health relating to each patient. The nutritionist also identifies nutritional therapies for the prevention and management of disease and evaluating the efficacy of nutritional interventions; explains the rationale and use of nutritional and dietary supplements; identifies food and nutrient interactions; educates and counsels patients regarding dietary change; and produces patient education material that addresses patients' concerns that were disclosed in the integrative medicine clinic. When applicable, the nutritionist addresses the issue of "stress and nutrition," evaluates and participates

in developing research related to nutrition and integrative cancer care, and participates in educational forums to educate patients, caregivers, and medical staff on issues related to nutrition and integrative cancer care.

Once a week, the integrative medicine team meets to discuss complex situations and unique patient concerns, brainstorm on possible solutions that can benefit the patient and their caregivers, and discuss specific incidents as they relate to each member's experience in providing integrative care in the institution.

The team consists of professionals employed at M.D. Anderson who have experience in conventional approaches to cancer care and knowledge and experience in integrative oncology. The team includes:

- Information specialists who have experience researching reliable information sources related to CIM therapies involved in caring for patients with cancer
- A nutritionist with expertise in monitoring diets and nutritional supplements and the use of food as a medicinal element in the treatment of cancer
- A holistic nurse who coordinates care and provides the missing link in between visits
- A pharmacist with expertise in complementary substances, including nutritional supplements, vitamins, herbs, and other natural products, and the interactions these substances may have with each other and with conventional medications
- Mind-body specialists who can suggest appropriate techniques, including music therapy, yoga, meditation, relaxation, expressive arts, and more, that can be used to reduce stress and anxiety; these specialists may also address spiritual issues
- Massage therapists who have experience with manual therapies that can help with relaxation, stress reduction, and improved symptom management
- An acupuncturist who has experience managing patients' pain, discomfort, and other symptoms resulting from illness or the side effects of conventional treatment
- A physical therapist or occupational therapist who can add a point of view on physical activity and rehabilitation
- A natural substance expert (ethno pharmacist) with expertise in herbs, foods, vitamins, and minerals that adds a unique viewpoint on various nutritional supplements

A large proportion of patients that come for the integrative medicine consultation are also referred for further CIM classes and treatments to Place... *of wellness.*

The interest in this consultation service was quite surprising and resulted in a quick increase in the number of clinical consultation sessions from two to four sessions a week in 2 months of operation, with only a minimal marketing effort. By March 2007, the clinic was working at full capacity at 4 half days per week, with over 200 visits from patients by the end of 2007. Most of the patients were satisfied with one visit that answered most of their concerns. On average, one third of the patients felt the need to come for further follow-up visits to address their concerns.

SUMMARY

The process of incorporating CIM with conventional medical care is a complex process. The experience is limited and there is currently no consensus regarding the integration of CIM into conventional care. Trying to address this process in cancer care is even more complicated. A model for integrating CIM into the conventional cancer care in a comprehensive cancer center requires cooperation from the key institutional stakeholders and a gradual infiltration into the system in a staged programmatic fashion. The clinical model for integrative care requires a patient-centered approach with attention to patients' concerns and enhanced communication skills. In addition, CIM practitioners' and conventional practitioners' involvement and working together in developing this integration process are essential. This process requires tremendous team effort, institutional culture change, trust and open communication between all members of the health care team, and major support from the institutional leaders.

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References

[1] New model guidelines for the use of complementary and alternative therapies in medical practice. Altern Ther Health Med 2002;8(4):44–7.
[2] General, practitioners, and committee, referrals to complementary therapists: guidance for GP's. 1999; London.
[3] Weil A. The significance of integrative medicine for the future of medical education. Am J Med 2000;108(5):441–3.
[4] Frenkel MA, Borkan JM. An approach for integrating complementary-alternative medicine into primary care. Fam Pract 2003;20(3):324–32.
[5] Elder C. Integrating CAM into practice: the KP northwest story. The Permanente Journal 2002;6:57–9.
[6] Paterson C. Complementary practitioners as part of the primary health care team: consulting patterns, patient characteristics and patient outcomes. Fam Pract 1997;14(5):347–54.
[7] Paterson C. Primary health care transformed: complementary and orthodox medicine complementing each other. Complement Ther Med 2000;8(1):47–9.
[8] Leckridge B. The future of complementary and alternative medicine: models of integration. J Altern Complement Med 2004;10(2):413–6 [review].
[9] Boon H, Verhoef M, O'Hara D, et al. From parallel practice to integrative health care: a conceptual framework. BMC Health Serv Res 2004;4(15).
[10] Mann D, Gaylord S, Norton SK. Integrating complementary and alternative therapies with conventional care (the convergence of complementary, alternative and conventional health care: educational resources for health professionals). University of North Carolina at Chapel Hill. Program on Integrative Medicine 2004;35.
[11] Kessler RC. Long-term trends in the use of complementary and alternative medical therapies in the United States. Ann Intern Med 2001;136:262–8.
[12] White House Commission on Complementary and Alternative Medicine policy WHCCAMP, final report 2002; Washington, DC.

[13] Pelletier KR, Astin JA. Integration and reimbursement of complementary and alternative medicine by managed care and insurance providers: 2000 update and cohort analysis. Alternative Therapies 2002;8(1):38–48.
[14] Pelletier KR, Astin JA, Haskell WL. Current trends in the integration and reimbursement of complementary and alternative medicine by managed care organizations (MCOs) and insurance providers: 1998 update and cohort analysis. Am J Health Promot 1999;14(2): 125–33.
[15] Canfield D, Faass N. Perspective: funding sources for an alternative medicine clinic. In: Faass N, editor. Integrating complementary medicine into health systems. Gaithersburg (MD): Aspen; 2001. p. 122–5.
[16] Cohen MH. Legal issues in complementary and integrative medicine: a guide for the clinician. Med Clin North Am 2002;86:185–96.
[17] Cohen MH, Eisenberg DM. Potential physician malpractice liability associated with complementary and integrative medical therapies. Ann Intern Med 2002;136(8):596–603.
[18] Cohen M. Legal issues in integrative medicine. 2005: National Acupuncture Foundation. 90.
[19] Crock RD, Jarjoura D, Polen A, et al. Confronting the communication gap between conventional and alternative medicine: a survey of physicians' attitudes. Altern Ther Health Med 1999;5(2):61–6.
[20] Berman BM. Complementary medicine and medical education. BMJ 2001;322(7279): 121–2.
[21] Frenkel M, Ben Arye E. The growing need to teach about complementary and alternative medicine: questions and challenges. Acad Med 2001;76(3):251–4.
[22] Konefal J. The challenge of educating physicians about complementary and alternative medicine. Acad Med 2002;77(9):847–50.
[23] Barrett B, Marchand L, Scheder J, et al. Bridging the gap between conventional and alternative medicine. J Fam Pract 2000;49(3):234–9.
[24] Druss BG, Rosenheck RA. Association between use of unconventional therapies and conventional medical services. JAMA 1999;282(7):651–6.
[25] Eisenberg DM, Cohen MH, Hrbek A, et al. Credentialing complementary and alternative medical providers. Ann Intern Med 2002;137(12):965–73.
[26] Hess D. Complementary or alternative? Stronger vs. weaker integration policies. Am J Public Health 2002;92(10):1579–81.
[27] Kingston S. The assessment of clinical skills for practitioners of complementary medicine. Complement Ther Med 1996;4:202–3.
[28] Astin JA, Marie A, Pelletier KR, et al. A review of the incorporation of complementary and alternative medicine by mainstream physicians. Arch Fam Med 1998;158(21):2303–10.
[29] Faass N. Integrating complementary medicine into health systems. Gaithersburg (MD): Aspen Publications. 763; 2001.
[30] Jain N, Astin JA. Barriers to acceptance: an exploratory study of complementary/alternative medicine disuse. J Altern Complement Med 2001;7(6):689–96.
[31] Mootz RD, Coulter ID, Hansen DT. Health services research related to chiropractic: review and recommendations for research prioritization by the chiropractic profession. J Manipulative Physiol Ther 1997;20(3):201–17.
[32] Richardson MA, Sanders T, Palmer JL, et al. Complementary/alternative medicine use in a comprehensive cancer center and the implications for oncology. J Clin Oncol 2000;18(13):2505–14.
[33] Baynham-Fletcher L, Babiak-Vazquez AE, Cuello D, et al. Credentialing complementary practitioners in large academic cancer center. J Soc Integr Oncol, in press.
[34] Mead N, Bower P, Hann M. The impact of general practitioners' patient-centredness on patients' post-consultation satisfaction and enablement. Soc Sci Med 2002;55(2):283–99.