Background: As demand increases for complementary and alternative medical care, pediatric institutions face the need to answer patients’ and clinicians’ questions about integrating these therapies in hospital settings.

Objective: To describe the first year of experience in providing holistic medicine consultations in an urban tertiary care teaching hospital.

Design: Prospective cohort.


Methods: Review of consultation notes and medical records.

Results: Of the 70 physician consultations, most (n=43) were for oncology patients. Most consultations (n=44) were accomplished with a single visit. The most common goal for consultation was to obtain help in managing symptoms such as nausea, pain, insomnia, or agitation (n=50). The most common questions about specific therapies had to do with herbs (n=41) or dietary supplements (n=42), but there were also frequent questions about diet and nutrition (n=33) and mind-body therapies such as guided imagery and biofeedback (n=28) and massage (n=25). Approximately 0.3 full-time equivalents of physician time was required to provide clinical consultations, and $7315 was collected of the $26638 billed for these services.

Conclusions: The complementary medicine consultation service was primarily consulted by oncology patients requesting assistance with pain and symptom management. Patients had questions about various therapies, particularly herbs and dietary supplements. Additional research is necessary to determine the cost-effectiveness of an integrated approach to care, particularly for institutions without access to reliable community resources for complementary and alternative medical therapies.


THE USE OF complementary and alternative medical (CAM) therapies is common and increasing in pediatric populations, particularly among the affluent and educated.1 Approximately 20% to 30% of general pediatric outpatients report having used 1 or more CAM therapies; use among adolescents, such as those undergoing sports physicals and those attending clinics for homeless youth, ranges from 50% to 75%.19 Rates of CAM therapy use among patients with chronic, recurrent, or incurable conditions, such as those with cancer, asthma, rheumatoid arthritis, and cystic fibrosis, range from 30% to 70%; rates are also high in specific cultural groups and recent immigrants.9 Parents of hospitalized children, particularly those in neonatal and pediatric intensive care units, report keen interest in providing CAM care to their children during hospitalization, but often have not discussed their interest in or use of CAM care with their child’s physician.9-11

Despite physicians’ limited formal training in CAM care, surveys from the late 1990s indicated that most primary care physicians personally use, make referrals to, and have positive attitudes toward alternative providers.12-22 The only study,23 to our knowledge, addressing pediatricians’ attitudes toward CAM therapies found that more than half of the responding pediatricians reported talking with their patients about CAM therapies and personally using and referring patients for CAM therapies. However, many clinicians are concerned about the safety and effectiveness of using CAM therapies for children and particularly about combin-
PATIENTS AND METHODS

In response to patient and physician demand, we planned to begin offering consultations by general pediatric attending physicians in July 1999. In preparation, a community pediatrician with a strong interest and background in mind-body therapies and yoga (W.L.W.) was hired in May 1999 at 0.3 full-time equivalents. During the first 4 months, she read extensively and met with local community CAM therapy providers to broaden her expertise. She also developed intake questionnaires for patients and families and worked with the hospital billing service to develop charge forms and to review claims submissions procedures.

The hospital staff were informed about the availability of the consultation service through an e-mail message to all hospital division chiefs, asking them to forward the information to all members of their staff. In response to requests from specific specialty services and programs, the consultants provided in-service training for nephrology, oncology, and gastroenterology services and the hospital’s Center for Families. Consultations were limited to the inpatient services and the outpatient pediatric oncology clinic; no separate clinic and no primary care services were offered. Consultations were available only by physician order. Outreach and marketing efforts were intentionally limited to ensure that we were able to meet the demand for consultations in a timely and effective manner and that the patients’ attending physicians were aware of all consultation requests and advice.

When each consultation was requested, the following data were collected: patient name, age, sex, medical record number, and primary diagnosis; admitting service; and name of the attending physician requesting the consultation. The family was also asked to complete a questionnaire before receiving the actual consultation to clarify the goals and reasons for the consultation, insurance information, current treatments, sources of support, and specific therapies of interest. The baseline questionnaires were only available in English. Because of early hospital discharges, memory lapses, and logistical obstacles, not all families completed the questionnaire before being seen. The key items in the questionnaire were discussed verbally during the initial consultation and in follow-up visits when needed.

Although patients may have initially requested a consultation to answer a question about an herbal remedy or dietary supplement, we probed in a systematic fashion about potential interest in their overall goals and their interest in other types of therapies (Table 1). We were not consulted by any patient to discuss alternative diagnostic modalities such as astrology, iridology, or psychic diagnosis. Therefore, our description is limited to therapeutic modalities only.

Before starting the service and throughout the first year, we accumulated a reference library of textbooks on complementary and alternative medicine, particularly on herbs and dietary supplements. We also developed close working relationships with our hospital librarian; the toxicology service; the Poison Control Center, Boston; the Massachusetts College of Pharmacy and Allied Health Sciences, Boston; and the New England School of Acupuncture, Watertown, Mass. One of us (K.J.K.) had extensive training and experience in providing Therapeutic Touch and Reiki (a bioenergetic healing technique similar to “laying on of hands”).

Billing for the consultations was provided and tracked through the Department of Medicine billing office for physician services at Children’s Hospital.

RESULTS

During the first 12 months, 42 physicians requested consultation for 81 patients. Of these, 3 patients were discharged before being seen (n=2) or refused consultation (n=1); 8 consultations were for massage therapy only. This report focuses on the remaining 70 patients who received a consultation from a Center for Holistic Pediatric Education and Research physician. Twenty-seven consultations were provided in the first 6 months, and 43 were provided in the second 6-month period during which consultations were available.

Patients ranged in age from 4 months to 40 years (a woman with cystic fibrosis) (mean and median age, 11 years); 36 (51%) of the patients were female. Of the 70 patients, 43 (61%) were from the oncology unit; 6 (9%) had cystic fibrosis. The remainder of the patients had diverse diagnoses such as asthma (n=3), renal disease (n=3), congenital cardiac anomalies (n=2), chronic abdominal pain (n=2), life-threatening infectious diseases (n=2), reflex sympathetic dystrophy (n=1), epilepsy (n=1), stroke (n=1), and others. No consultations were requested from the gastroenterology, dermatology, psychiatry, or endocrinology units.
Altogether, the 70 patients received 131 visits. Forty-four consultations (63%) were accomplished with 1 visit. There were 19 visits in the intensive care unit, 83 on the inpatient wards, and 29 in outpatient clinics, of which 28 were in the pediatric oncology clinic.

The goals for consultation were often initially framed in terms of information about a specific therapy, such as an herb. Additional discussion about the overall goals of these therapies revealed 6 main types of goals (Table 1). Families could have had more than 1 goal for the consultation. The most common goal was to help manage symptoms, such as nausea, pain, anxiety, depression, insomnia, poor appetite, and agitation. The second most frequent goal was for assistance in building up the child's system, enhancing immune function, increasing strength or resilience, or eliminating toxins. Three physicians requested assistance in dealing with families who adamantly insisted on using alternative therapies or threatened to leave the hospital; in all cases, consultation was effective in helping physicians and families communicate their concerns and goals more effectively and constructively.

Only 6 families asked for help in actually curing their child's condition; these were all oncology patients for whom other therapies had failed. We were unable to provide any alternative therapies that cured cancer, but were often able to recommend or encourage parents to use simple measures such as massage for relaxation or pain relief, acupressure or acupuncture for nausea, aloe vera gel or chamomile tea to help soothe oral mucositis, and lavender aromatherapy or music to help children relax. Parents uniformly expressed gratitude at being empowered to do something to help their child, even in the face of an incurable disease.

Patients were already using various therapies, and had questions about many more (Table 2). Most were taking medications, and all had primary care and specialist physicians; yet 7 of the families asked the Center for Holistic Pediatric Education and Research consultant about additional medications.

Fifty-six families (80%) had at least 1 question about an herb or dietary supplement. Forty-two families asked about dietary supplements, such as multivitamins, individual vitamins, calcium, coenzyme Q10, colloid silver, creatine, IP-6, ω3 or ω6 fatty acids, honey, magnesium, methylsulfonylmethane, protein supplements, selenium, vitamin O, and xylitol. Consultants often recommended multivitamins and supported parents who chose to provide moderate supplemental vitamin C, coenzyme Q10, and essential fatty acids, but typically recommended that antioxidants not be provided within 48 to 72 hours of chemotherapy doses or radiation therapy so as to avoid possible interference with therapies that exert beneficial effects through oxidative reactions. Consultants discouraged the use of protein powders, oral shark cartilage, methylsulfonylmethane, and vitamin O.

Herbs of interest to families included Essiac, cat's claw, Noni juice, Astragalus, chamomile, echinacea, ginger, goldenseal, green tea, milk thistle, and various Chinese herbs and mushrooms. Consultants recommended herbs such as aloe (to soothe skin and mucous membranes), ginger (for nausea), chamomile (as a mild sedative and anti-inflammatory agent), lavender aroma-

### Table 1. Goals for Therapeutic Consultation

<table>
<thead>
<tr>
<th>Goal</th>
<th>No. (%) of Families (N = 70)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cure (eg, get rid of cancer)</td>
<td>6 (9)</td>
</tr>
<tr>
<td>Symptom management (eg, nausea, fatigue,</td>
<td>50 (71)</td>
</tr>
<tr>
<td>pain, or anxiety)</td>
<td></td>
</tr>
<tr>
<td>Prevention of recurrence or complications</td>
<td>8 (11)</td>
</tr>
<tr>
<td>or remove toxins</td>
<td></td>
</tr>
<tr>
<td>Build up the system, promote resilience,</td>
<td>26 (37)</td>
</tr>
<tr>
<td>or remove toxins</td>
<td></td>
</tr>
<tr>
<td>Peace or harmony</td>
<td>7 (10)</td>
</tr>
<tr>
<td>Enhance communication between family and</td>
<td>3 (4)</td>
</tr>
<tr>
<td>medical staff</td>
<td></td>
</tr>
</tbody>
</table>

*Percentages add to more than 100 because families could have more than 1 goal for the consultation.

### Table 2. Therapies Used by the 70 Families

<table>
<thead>
<tr>
<th>Therapy</th>
<th>Families Already Using the Therapy*</th>
<th>Families With Questions About the Therapy*</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medications</td>
<td>60 (86)</td>
<td>7 (10)</td>
<td>6 New recommendations</td>
</tr>
<tr>
<td>Dietary supplements</td>
<td>28 (40)</td>
<td>42 (60)</td>
<td>30 Recommended, 5 information only, and 9 discouraged</td>
</tr>
<tr>
<td>Herbs</td>
<td>18 (26)</td>
<td>41 (59)</td>
<td>31 Recommended, 4 information only, and 11 discouraged</td>
</tr>
<tr>
<td>Lifestyle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special diet</td>
<td>42 (60)</td>
<td>33 (47)</td>
<td>33 Recommended, 4 information only, and 2 discouraged</td>
</tr>
<tr>
<td>Exercise</td>
<td>27 (39)</td>
<td>30 (43)</td>
<td>35 Recommended</td>
</tr>
<tr>
<td>Environment (including magnets and ionizers)</td>
<td>9 (13)</td>
<td>13 (19)</td>
<td>12 Recommended</td>
</tr>
<tr>
<td>Mind-body</td>
<td>14 (20)</td>
<td>28 (40)</td>
<td>33 Recommended</td>
</tr>
<tr>
<td>Biomechanical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Massage</td>
<td>14 (20)</td>
<td>25 (36)</td>
<td>32 Recommended</td>
</tr>
<tr>
<td>Chiropractic, osteopathy, or craniosacral</td>
<td>16 (23)</td>
<td>10 (14)</td>
<td>6 Recommended and 2 information only</td>
</tr>
<tr>
<td>Surgery</td>
<td>39 (56)</td>
<td>1 (1)</td>
<td>0 Recommended</td>
</tr>
<tr>
<td>Bioenergetic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acupuncture</td>
<td>8 (11)</td>
<td>25 (36)</td>
<td>26 Recommended and 1 information only</td>
</tr>
<tr>
<td>Therapeutic Touch or Reiki</td>
<td>16 (23)</td>
<td>19 (27)</td>
<td>27 Recommended</td>
</tr>
<tr>
<td>Prayer</td>
<td>41 (59)</td>
<td>21 (30)</td>
<td>33 Recommended and 1 information only</td>
</tr>
<tr>
<td>Homeopathy</td>
<td>12 (17)</td>
<td>13 (19)</td>
<td>11 Information only</td>
</tr>
</tbody>
</table>

*Data are given as the number (percentage) of families.
therapy (as a mild sedative), milk thistle (to protect against hepatotoxicity), and senna (as a laxative). For herbal cancer remedies, such as Essiac and cat’s claw, consultants provided evidence-based information from the Longwood Herbal Task Force reviews (available at: http://www.mcp.edu/herbal) to families and clinicians, but did not recommend them. Consultants strongly recommended avoiding potentially dangerous herbs, such as Chinese patent medicines and pokeweed. In some cases, a consultation might encourage the use of a benign herb, such as chamomile, and for the same patient, discourage use of a potentially toxic herb, such as pokeweed.

Forty-two families reported giving their child a special diet; in most cases, this was simply an “extra healthy diet” rich in fruits and vegetables. A few patients were on low-fat, low-salt, allergen-avoidance, or high-calorie diets. Special diets of interest to families included the macroblobiotic diet (n = 3), the Gerson diet (n = 1), and the ketogenic diet (n = 1), but most questions were for recommendations about dietary changes that would help “build up” the child’s immune system or overall health. Consultant recommendations included increasing energy intake, for example by switching to whole milk; other recommendations included increasing the intake of yogurt, high-protein foods, cranberry juice, Japanese mushrooms, fruits and vegetables, fiber, and whole grains. Four families were referred for consultation to the nutrition service. Patients were discouraged from following a macroblobiotic diet because of the risk of inadequate intake of energy, protein, calcium, and other micronutrients.

Most families reported that the child was exercising, but few reported any specific therapeutic exercise. Families frequently expressed interest in exercise programs that would help build up the child’s system or immunity or help them regain self-confidence that had eroded from losing strength and coordination after prolonged illness and isolation. Consultants frequently recommended that fatigued patients or those who were immunosuppressed or had dyspnea begin yoga or tai chi chuan in a small group setting or ride a stationary bicycle for 5 minutes a few times daily and gradually increase as tolerated. Three patients were referred to the physical therapy unit for assistance with mobility and exercise.

A few patients reported using aromatherapy, magnets, ionizers, air filters, heat packs, ice packs, cold baths, music, and fresh air as environmental strategies to reduce symptoms, build resilience, and achieve a greater sense of peace. Consultants encouraged the use of low-cost measures such as music, fresh air, hot and cold packs, and aromatherapy, and informed families that data on benefits were lacking for more expensive interventions such as mattresses imbedded with magnets.

Fourteen patients were already using mind-body therapies to cope with pain and/or stress. Twenty-eight of the parents were interested in additional therapies such as guided imagery, hypnosis, and biofeedback. They were referred to the consultation liaison psychiatry service at the hospital, to the psychologists and social workers at the Dana Farber Cancer Institute, Boston, or to outpatient psychologists in their local area.

Fourteen patients had undergone massage therapy (usually in the form of back rubs or foot rubs given by a parent) and 16 had seen a chiropractor. Because so many parents wanted to learn more about providing massage to their child, the hospital hired a nurse–massage therapist on a part-time basis (0.2 full-time equivalents) in April 2000 to teach nurses and parents how to provide brief therapeutic massage; subsequently, physicians could request a massage consultation directly without a complementary medicine physician consultation. Although 10 of the families asked us about chiropractic, none asked for a referral; most were interested in our opinion about the safety and effectiveness of chiropractic therapy in conjunction with their child’s ongoing medical care. We emphasized the low risk of adverse effects of chiropractic, but cautioned families that little was known about the effectiveness of this type of therapy for children with serious health problems such as those facing their child and that insurance coverage for such services was variable. We offered to facilitate communication between chiropractors caring for their children and the medical specialists at our hospital, but were never called on to do so.

Eight families had already tried acupuncture or acupressure for their child, but many more were interested in its possible benefits. We recommended acupuncture for 26 patients, primarily for relief from or prevention of nausea and for pain management. Because of the increasing number of requests for acupuncture therapy, the hospital hired a part-time acupuncturist (0.2 full-time equivalents) in August 2000.

Families who wanted to pursue prayer or other forms of spiritual healing were strongly encouraged to do so: 2 families who asked for a shaman were referred to a local volunteer pastoral counselor who is also a Reiki master and shaman. Sixteen patients had already undergone Reiki, Therapeutic Touch, laying on of hands, or some other kind of spiritual healing, and 41 of the families reported that prayer was an important part of how they were helping their child and themselves. Reiki and/or Therapeutic Touch was provided by one of us (K.J.K.) and/or one of several hospital nurses to the 27 (39%) of the patients who requested it.

Twelve of the families reported having used homeopathy for their child, and 13 had questions about homeopathy. Consultants assured families that homeopathy was safe, and provided information about the lack of controlled trials evaluating its effectiveness in treating children with serious medical conditions such as cancer and cystic fibrosis.

Both of the physician consultants were engaged in numerous academic activities and clinical services. Approximately 0.3 full-time equivalents of physician time was consumed in consultation itself, gathering background information, communicating with other health care providers caring for the patients, and submitting and tracking billing. During the year, $26,638 was billed and $7,315 (27%) was collected for all consultations. This collection rate is similar to that of other medical specialists at our institution during this period.

**COMMENT**

Despite the rapid growth in the use of CAM therapies by general pediatric patients and by children with diverse medical problems, to our knowledge, this is the first de-
scription of an inpatient consultation service to address questions raised by the possible integration of complementary therapies with conventional care. The service was established at a major academic children’s hospital in response to perceived need by patients and clinicians, although the specific nature of questions to be addressed and the resources required to respond to them were not specifically known at the outset.

Most referrals for consultation arose from the oncology service, but patients with widely diverse diagnoses in different settings ranging from outpatient clinics to the intensive care unit sought consultation. We also received requests for consultation directly from families, from clinicians outside the hospital, and from several outpatient clinics in Children’s Hospital. For logistical and functional reasons, we did not establish a separate outpatient consultation clinic or accept direct requests from patients or outside physicians. For administrative reasons, we largely limited outpatient consultations at Children’s Hospital to the oncology clinics.

Similar to the recent survey of consultation use among pediatric oncology patients, in our sample, the goals of families requesting consultation were for help with symptom management (pain, anxiety, and sleep) and for help to build up strength, build the immune system, or remove toxins. The most common questions about specific therapies had to do with herbs and other dietary supplements. Most of the most common questions about specific therapies had to do with herbs and other dietary supplements. We were able to dissuade most families from using unregulated herbal remedies while allowing the use of benign substances such as chamomile tea, ginger, and aloe vera. Our experience points to a clear need for physician education on this topic. Institutional pharmacy and therapeutic committees will also have to do with herbs and other dietary supplements.

Many patients had already visited professional CAM care providers. Interestingly, no families asked for a chiropractic referral despite the fact that chiropractic is the most common outpatient professional CAM therapy for children. Most requests for professional CAM care were for acupuncture, massage therapy, and mind-body therapies such as hypnosis, guided imagery, and biofeedback. Pediatric institutions who want to provide integrated services may want to hire a psychologist, massage therapist, and acupuncturist on at least a part-time basis; substantial time may be required to establish credentialing and billing procedures for nonphysician providers.

Numerous families were also engaged in prayer healing, Reiki, Therapeutic Touch, or other spiritual or bioenergetic healing practices or were interested in receiving these services. Our rates may be higher than those reported by other institutions in which physicians and nurses are not known to discuss and provide such services. Nationally, thousands of nurses have been trained in Therapeutic Touch, and increasing numbers of hospitals have policies and procedures written for these practices. However, many physicians are unaware that such resources are available and being provided in their institutions.

In retrospect, most consultation requests during the first year were from the oncology service; patients’ diagnoses ranged from those that are relatively treatable (eg, acute lymphocytic leukemia) to those that are mostly resistant to conventional therapies (eg, brain tumors). The non-oncology patients had even more diverse diagnoses. Because of the heterogeneous sample and small overall size, we did not perform comparative analyses of the amount and types of CAM therapies sought by patients with different diagnoses. Future studies of larger numbers of consultations from multiple institutions may be helpful in delineating the kinds of CAM consultations and resources requested by patients with different diagnoses.

Reimbursement for physician services was not equal to resources required in the first year of consultation services; this is not unusual in academic institutions or in any start-up enterprise. Overhead was low because no additional examination rooms or nursing staff were required. Additional services might have been requested if more intensive marketing had been done. In part, marketing was intentionally limited to allow us to gain experience and expertise, establish good communication and credibility in the hospital, respond to requests quickly, and assure ourselves that our other academic duties would not be neglected. Because of informal, “word of mouth” communication between families and clinicians in the hospital and oncology clinics, consultation requests have steadily increased over time.

Our experience may not be generalizable to nonacademic or community-based institutions. Complementary and alternative medical therapy use tends to be highest in patients who have severe, chronic, or incurable conditions such as those found in tertiary care teaching hospitals. Our staff had some baseline knowledge and experience that may not yet be widespread in the pediatric community. Our community has extensive resources to help answer questions about specific therapies such as acupuncture and herbs because of the presence of the New England School of Acupuncture and the Center for Integrative Therapies in Pharmaceutical Care at the Massachusetts College of Pharmacy and Health Sciences.

We were unable to assess adequately the satisfaction of referring physicians with the consultations provided. When we attempted to do so, most referring attending physicians stated that they could not remember the patient or the consultation, or said that a resident, fellow, or nurse had actually requested the consultation and that they were unaware of the outcome of the consultation. Among those physicians who did remember the consultation, all expressed gratitude for the service and all intended to consult the service again. The most frequent comments had to do with receiving resources and information about herbs and other dietary supplements, interacting with an acupuncturist and massage therapist who were knowledgeable and credible, and benefiting from a colleague who could communicate with families about their novel or unique questions or opinions in a way that enhanced collaboration and teamwork in situations that had previously been volatile or antagonistic.
This report does not provide any information about the clinical effectiveness and safety of CAM therapies, but it does provide information that is critical to future investigations. First, in assessing the outcome or effectiveness of any therapy, it is essential that the investigator understand the goals for which the therapy is being used. For example, many parents wanted a therapy that would help build up the child’s system or “get rid of toxins,” and did not expect that the therapy would replace chemotherapy, cure the cancer, or even reduce symptoms. New outcome measures may need to be developed to address these outcome goals and others, such as “feeling more peaceful,” “feeling more balanced,” or “knowing I’ve tried everything.” It may also be worthwhile to further develop methods to assess and enhance physician-family congruence in treatment goals and values.

Second, additional research is vitally needed to answer patients’ questions about the safety and effectiveness of herbal therapies and other dietary supplements, particularly in pediatric populations and most especially in those patients with serious diseases who are already taking 1 or more medications. Patients and families are already using these products, and systematic data collection to assess their effects is needed to avoid mishaps and misattribution of benefits and adverse effects.

Health services research is also needed to assess the costs and benefits of professionally provided therapies such as acupuncture, massage, and Therapeutic Touch. Little is known about the direct impact of these services on children, or about their impact on the use and effectiveness of more mainstream therapies. Do the costs for these therapies add to overall health care costs or do they substitute for more expensive services? Even for therapies (such as hypnosis and guided imagery) that have proved as effective as medications for some conditions (such as migraine headaches), little is known about the long-term costs and benefits, either financially or in terms of patients’ sense of well-being, sense of self-efficacy, or life satisfaction.

While research is ongoing, patient demand for explicitly integrating CAM services into mainstream settings will continue to grow, particularly for those institutions providing care to the sickest and most vulnerable children. As demand grows, more and more institutions will develop and implement responsible strategies for meeting it. These strategies will demand ongoing professional education; outreach to respected CAM therapy providers; innovative institutional policy making; and a return to basic concepts of individualized, patient-focused caring and communication between physicians, families, and other health care providers. In the future, we hope that a separate consultation service for integrative medicine becomes obsolete as all physicians acquire the tools and skills necessary to creatively and collaboratively anticipate, discuss, and respond to patients’ questions about a wide range of therapies. For the present, we hope that this report provides at least one small step in that direction.

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REFERENCES