

History of Psycho-Oncology: Overcoming Attitudinal and Conceptual Barriers

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The formal beginnings of psycho-oncology date to the mid-1970s, when the stigma making the word “cancer” unspeakable was diminished to the point that the diagnosis could be revealed and the feelings of patients about their illness could be explored for the first time. However, a second stigma has contributed to the late development of interest in the psychological dimensions of cancer: negative attitudes attached to mental illness and psychological problems, even in the context of medical illness. It is important to understand these historical underpinnings because they continue to color contemporary attitudes and beliefs about cancer and its psychiatric comorbidity and psychosocial problems. Over the last quarter of the past century, psycho-oncology became a subspecialty of oncology with its own body of knowledge contributing to cancer care. In the new millennium, a significant base of literature, training programs, and a broad research agenda have evolved with applications at all points on the cancer continuum: behavioral research in changing lifestyle and habits to reduce cancer risk; study of behaviors and attitudes to ensure early detection; study of psychological issues related to genetic risk and testing; symptom control (anxiety, depression, delirium, pain, and fatigue) during active treatment; management of psychological sequelae in cancer survivors; and management of the psychological aspects of palliative and end-of-life care. Links between psychological and physiological domains of relevance to cancer risk and survival are being actively explored through psychoneuroimmunology. Research in these areas will occupy the research agenda for the first quarter of the new century. At the start of the third millennium, psycho-oncology has come of age as one of the youngest subspecialties of oncology, as one of the most clearly defined subspecialties of consultation-liaison psychiatry, and as an example of the value of a broad multidisciplinary application of the behavioral and social sciences. **Key words:** psycho-oncology, cancer, multidisciplinary treatment approach, attitudes.

DSM-III = *Diagnostic and Statistical Manual of Mental Disorders*, third edition; HADS = Hospital Anxiety and Depression Scale; NCCN = National Comprehensive Cancer Network; PTSD = posttraumatic stress disorder.

INTRODUCTION

The brief history of psycho-oncology is interesting for contemporary review because it has, over 25 years, produced a model in which the psychological domain has been integrated, as a subspecialty, into the disease-specific specialty of oncology. As such, the field today contributes to the clinical care of patients and families, to the training of staff in psychological management, and to collaborative research that ranges from the behavioral issues in cancer prevention to the management of psychiatric disorders and the psychosocial problems during the continuum of the cancer illness,

including end-of-life care (1). Given the centrality of psychological issues in cancer, it is surprising that the formal history of psycho-oncology began only in the mid-1970s in the United States. It becomes understandable, however, when one realizes that it was only then that the stigma attached to cancer diminished to the point that most patients were told their diagnosis, which made it possible to openly explore and study their psychological responses.

Although the development of psycho-oncology occurred primarily over the last quarter of the 20th century, it is crucial to understand the attitudes of an earlier American society toward cancer and toward mental illness (including psychiatric comorbidity and psychological issues in medical illness) because they still impact on contemporary attitudes, albeit in an attenuated form today. Some continue to present barriers to optimal psychosocial care and research.

This article explores the following issues: first, the barriers arising from longstanding attitudes and beliefs about cancer; second, the attitudinal barriers toward mental illness that produced difficulties in the development of the subspecialty of psychiatry dedicated to the psychiatric care of the medically ill; third, the factors that led to the initial search for a psychological cause of cancer, thereby delaying interest in the somatopsychic aspects of cancer pa-

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Received for publication February 4, 2000; revision received September 7, 2001.

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tients and collaboration with physicians and surgeons in patient care; fourth, the barrier posed by the absence of a theoretical model that could successfully integrate the approaches and contributions by the range of disciplines that are involved in psycho-oncology (behavioral medicine, psychology, psychiatry, nursing, social work, and pastoral counseling); fifth, the initial accomplishments in the field from 1975 to 2001; and sixth, the direction of research for the first quarter of the new millennium.

ATTITUDINAL BARRIERS AND STIGMA ASSOCIATED WITH CANCER

In the 1800s, like the preceding centuries, a cancer diagnosis was viewed as the equivalent of death. There was no known cause or cure. Revealing the diagnosis to a patient was considered cruel and inhumane because the patient would lose all hope and could cope better not knowing. This was viewed as an acceptable “white lie,” although the patient’s family was always told. Tolstoy’s story *The Death of Ivan Ilyich* (2) graphically describes the isolation Ilyich felt in the 19th century when his family and doctor pretended that his intense stomach pain was nothing serious. He struggled alone with his pain and awareness that he was mortally ill while his family and physician participated in a conspiracy of silence.

Fear of cancer was so great that the family would not reveal the diagnosis to others because of the stigma that became attached to the patient and to the family. Shame and guilt were dominant emotions, combined with the fear that it was contagious. Early in the 20th century as surgery improved and anesthesia was developed, it became possible (though uncommon) to cure a cancer if the tumor was found early and could be removed before it had spread. For the first time, educating the public became important. Educational programs encouraging people to seek consultation for symptoms suspicious of cancer began through the American Cancer Society, which formed in 1913. These programs represented the first attempts to alter the public’s fatalistic attitudes toward cancer. The society’s mandate was to “disseminate knowledge concerning the symptoms, treatment and prevention of cancer” (3). To counter the ignorance, fatalism, and fears, warning signs of cancer were publicized. Such slogans as “Fight cancer with knowledge” were used to combat the fears. Despite the greater public information, however, many people neglected the danger signals, largely because of these attitudes, and they sought consultation only after delaying too long for surgery to effect a cure.

Radiation joined surgery as a treatment for cancer

early in the first quarter of the 20th century. However, it was offered mainly as palliation, often after surgical failure, and people feared it as they did surgery (4). Public concern and fears led to support for research to find a cure for cancer. Memorial Sloan-Kettering Cancer Center was founded in the 1880s as a cancer hospital and established a research effort in the early 1900s. In 1937, the National Cancer Institute was created as the first of the National Institutes of Health. In 1948, Farber reported the first temporary remissions of childhood acute leukemia with aminopterin, followed by the early responses of Hodgkin’s disease to nitrogen mustard (4). This began an active search for new chemotherapeutic drugs; thus, chemotherapy was added as the third treatment modality for cancer, combined with increasingly more effective surgery and radiation, which was given by machines delivering calibrated doses. The first *chemotherapy cure* of a cancer, choriocarcinoma, by the single agent methotrexate, was achieved in the early 1950s. The introduction of chemotherapy to the treatment armamentarium dramatically altered the prognosis for several previously fatal tumors of children and young adults, notably childhood acute lymphocytic leukemia, testicular cancer, and Hodgkin’s disease. These cures in the 1960s, of previously fatal cancers, did much to reduce the pessimism about cancer treatment and stimulated a new interest in the long-term effects of cancer treatment.

This period coincided with the awakening of concerns about the importance of patients being able to give informed consent for treatment, which could occur only in the context of an open dialogue with the doctor about the diagnosis and treatment options. Patients’ rights became more important as revelations of the post-World War II Nuremberg trials disclosed experimentation in humans without consent. The repercussions plus evidence of some experimentation on patients in the United States without their consent, including a patient with cancer, led to the promulgation of federal guidelines for research with human subjects. The era of social upheaval in America (1960s–1970s) contributed to movements for the rights of women, consumers, and finally patients, who began to recognize their right to know their diagnosis, prognosis, and treatment options.

During these post-World War II years, the only formal psychological support for cancer patients was through the American Cancer Society’s “visitor” programs. Patients who had had a laryngectomy or colostomy were asked to speak with patients who feared undergoing these frightening and disabling—yet often curative—procedures. Self-help groups were formed by patients as laryngectomy and ostomy clubs. These were followed by “Reach to Recovery,” started in the

1950s by the American Cancer Society as a program in which women who had had a mastectomy (usually radical in those days) visited women in the postoperative period.

Despite widespread endorsement by patients, these organizations had an uphill battle to gain acceptance in the medical community. Except in special situations, physicians were slow to acknowledge that there was a unique and useful role for patients to support and encourage others with the same diagnosis and treatment, even though few adverse effects were reported. The strong bias against encouraging patients to talk with one another continued into the last quarter of the 20th century, when experience began to show that the benefits of the social support far outweighed the risks.

Table 1 outlines by decade the advances in cancer medicine since 1800; the changes in societal attitudes toward cancer and death in each period; and the progress made in the psychological and psychiatric care of the medically ill, including cancer patients. Readers who are interested in the historical details of cancer medicine and the social attitudes associated with it are referred to Shimkin (4), Patterson (5), and Holland and Gooen-Piels (6).

ATTITUDINAL BARRIERS TOWARD PSYCHOLOGICAL CARE OF THE MEDICALLY ILL

The centuries-old stigma attached to mental illness and its treatment had a profound impact on developing psychological care for medically ill patients. Mental illness, like cancer, had no known cause or cure. It was as feared as cancer. Demonic possession was a common attribution; the person was blamed and ostracized in most societies (7, 8).

In the United States, the 19th and early 20th centuries saw mental patients and their physician—"alienists" isolated in mental hospitals, which were located at a distance from medical care in general hospitals. By the latter 1800s, however, interest was developing to bring the treatment of mental illness into general medicine by placing psychiatric units in general hospitals and by teaching physicians and students to recognize and treat psychiatric comorbidity in medical patients (9). Adolph Meyer did much to bring the unifying concept of "psychobiology" to the awareness of physicians. From his position at Johns Hopkins, he and his students had an impact on academic medicine, encouraging treatment of the whole person. In 1902, the first psychiatric ward was opened in a general hospital in Albany, New York. Psychiatric consultations to medical patients began to develop in the 1930s, fos-

tered in part by the Rockefeller Foundation, which supported several centers of excellence whose prominence in academic medicine did much to expand the concepts of psychosomatic medicine and psychiatric care of the medically ill.

However, the attitudes toward permitting entry of the psychiatrist on the medical wards of the general hospital varied from hostile to indifferent. In 1929, George Henry (10), a psychiatrist, documented his experience: "For several years, it has been my privilege to be engaged in making practical applications of psychiatry in general hospitals and after having dealt with the problems of more than two thousand cases, I am attempting to formulate my experiences. Very few exceptions can be taken to the statement that when psychiatry is first introduced into a general hospital there is likely to be indifference or even resistance on the part of the hospital staff. . . . In one hospital, the superintendent received the proposal of psychiatric aid with the remark that in his experience, 'insanity' was a hopeless disease and furthermore there were no 'insane' patients in the hospital. A chief surgeon's response was, 'I don't know what it's all about, but I guess it won't do any harm.'" Henry proposed that every general hospital should have a psychiatrist available.

In that article, Henry reported on the psychiatric diagnoses of 300 cases he had seen (Table 2). Despite changes in diagnostic terminology, the percentages are remarkably similar to those encountered in medically ill patients today. The principles enunciated by Henry in 1929, still applicable, suggest the importance of a psychiatrist being a part of medical services to bring the attention of teaching doctors and medical students to comorbid psychiatric problems and common psychological factors contributing to medical illness or symptoms.

Such were the beginnings of what became known as consultation-liaison psychiatry. These initial endeavors came out of the experiences in psychiatric units that cared for patients with medical illness and psychiatric comorbidity and also from the psychiatric consultations done on patients on the floors of the general hospitals (9). Patients with cancer were treated in the general wards of the hospital by general physicians. The disease did not attract much academic interest or study since it was viewed as having little "science" attached to it. Patients sensed that they were regarded as largely untreatable as doctors spent less time at their bedside, following the custom of not discussing the diagnosis and prognosis and avoiding questions that would lead to such a discussion.

The 1930s saw the arrival in the United States of many psychoanalysts from Europe. The impact of psy-

TABLE 1. Advances in Cancer Treatment and Changes Affecting Psychological Care in Cancer

Decade	Societal Attitudes		
	Advances in Cancer Treatment	Cancer	Death
1800s	Mortality high from infectious diseases; tuberculosis common	Cancer equals death; diagnosis not revealed	Patient is in "God's hands"; physician's role is to comfort; "death is part of life"; person died at home
1900s-1920s	Effective cancer treatment unknown	Stigma, shame, guilt associated with having cancer; fears of transmission	Fatalism about cancer diagnosis; death is inevitable
	Introduction of anesthesia (1847) and antiseptics; opened way for surgical excision of cancer	Fatalism about cancer diagnosis	
1930s	Successful surgical removal of some early cancers	In 1890s, efforts in Europe and US to inform public of warning signs of cancer	First psychiatric unit in a general hospital, Albany, NY (1902)
	Radiation used for palliation ACS started in 1913	Era of home remedies and quack cures for cancer	Psychobiological approach of Adolf Meyer Psychophysiological approach to disease by Cannon
1940s	National Cancer Institute and International Union Against Cancer formed in 1937	ACS began visitor-volunteer programs for patients with functional deficits (colostomy, laryngectomy)	Beginning psychiatric consultation and psychiatric units in general hospitals through grants from Rockefeller Foundation
	Beginning of research in cancer treatment Nitrogen mustards, developed in WWII, found to have antitumor action First remission of acute leukemia by use of drug	Pervasive pessimism of public and doctors about outcome of cancer treatment	Psychoanalytic movement with psychoanalytic orientation Search for cancer personality and life events as cause of cancer; efforts not related to cancer care First scientific study of acute grief by Lindemann Role for social workers defined in US; important role in cancer care
1950s	Beginning of cancer chemotherapy; first cure of choriocarcinoma by drugs alone (1951)	Debates about the practice of not revealing cancer diagnosis; public is better informed	First papers on psychological reactions to cancer (1951-1952)
	Improvement of radiation therapy techniques		Psychiatrists favor revealing cancer diagnosis
1960s	Combined modalities lead to first survivors of childhood leukemia and Hodgkin's disease	More optimism about cancer; survivors' concerns heard	Biopsychosocial approach of Engel and his group in Rochester, NY
	Hospice movement started	Public concern grows for prevention research in cancer	First psychiatric unit established at MSKCC under Sutherland in 1951 Feigenberg at Karolinska uses psychoanalytical approach with dying patients about their imminent death US Surgeon General's report on smoking and lung cancer (1964); behavioral studies of smoking
	Tobacco related to lung cancer		

TABLE 1. Advances in Cancer Treatment and Changes Affecting Psychological Care in Cancer (Continued)

Decade	Societal Attitudes		
	Advances in Cancer Treatment	Cancer	Death
1970s	National Cancer Plan (1972) with rehabilitation and cancer control; psychosocial included	Diagnosis usually revealed in US and several other countries	Prognosis more likely not revealed
	Informed consent for treatment protocols; increased patient autonomy	Guidelines for protection of patients' rights	First hospice in US (1974) Guidelines for care of hopelessly ill (DNR) (1976)
1980s	Two cooperative groups, CALGB and EORTC, established committees to study quality of life and psychosocial issues	Women's, consumers; and patients' rights movements	Psychosocial Collaborative Oncology Group (1976–1981) and Project Omega at Massachusetts General Hospital (1977–1984)
	ACS assisted development of psycho-oncology, sponsoring 4 conferences on research methods	8 million cancer survivors in US "out of closet"	Psychiatry service at MSKCC established (1977) International Psycho-oncology Society (1984)
1990–2000	ACS Peer Review Committee established for psychosocial research (1989)	National cancer survivors organizations	American Society of Psychosocial and Behavioral Oncology/AIDS founded (1986)
	Better analgesics and antiemetics developed	Concern for quality of life and symptom control increases	Health psychologists contribute to clinical care and research in cancer Development of psychoneuroimmunology <i>Handbook of Psychooncology</i> published (1989)
1990–2000	US Federal Drug Administration designates quality of life change as bars for approval of new anticancer agents (1985)	Increased public interest in cancer prevention, lifestyle changes, decreased smoking	Greater range of psychosocial and behavioral interventions, especially groups
	Pain initiatives for public and professional education	Improved symptom control and palliative care; public debate over physician-assisted suicide	<i>Psycho-Oncology</i> journal published Standards of care and clinical practice guidelines for psychosocial distress (1998)
1990–2000	Identification of genetic basis of many cancers and gene therapy	Public fear of cancer diminished, but strong beliefs in psychological causes of cancer and as factors in survival	Research in psychological issues associated with genetic risk and testing
	Immunological therapies (monoclonal antibodies, allogeneic transplants)	Increased use of alternative/complementary therapies	Psychiatric complications of immunologic therapies (Interferon, stem-cell transplant)
1990–2000	Combined chemotherapy agents	Public fear of cancer diminished, but strong beliefs in psychological causes of cancer and as factors in survival	Quality-of-life assessment with innovative therapies
	Cytokines for marrow support during chemotherapy	Increased use of alternative/complementary therapies	First Department of Psychiatry and Behavioral Sciences established in a cancer center (MSKCC, 1996)
1990–2000	Improved radiotherapy (brachytherapy, conformal)	Increased use of alternative/complementary therapies	Research increases focus on behavioral aspects of cancer prevention
	Laparoscopic surgery	Increased use of alternative/complementary therapies	
1990–2000	First decrease in cancer mortality	Increased use of alternative/complementary therapies	

^a ACS = American Cancer Society; CALGB = Cancer and Leukemia Group B; DNR = do not resuscitate; EORTC = European Organization for Research in the Treatment of Cancer; MSKCC = Memorial Sloan-Kettering Cancer Center.

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TABLE 2. Psychiatric Diagnoses Reported by Dr. George Henry in 1929

Diagnosis	N	%
Psychoneurosis	141	47
Toxic-delirious state	38	13
Organic nervous disease	37	12
Physical disease (without psychiatric problem)	26	9
Psychopathic personality	18	6
Psychosis (functional)	18	6
Mental retardation	8	3
Behavior problem	7	2
Other conditions	7	2
Total	300	100

Adapted from Henry (10).

choanalysis on American psychiatry and society was immense. Flanders Dunbar and Franz Alexander were well-known figures whose research focused on psychoanalytic formulation of medical diseases. The stage was set for the development of the psychosomatic movement by seeking psychodynamic formulations or traumatic events that were antecedents of illness. In cancer, the research would focus on patients with a specific malignancy, who were then studied psychiatrically by a retrospective life review to identify the pattern of problems that emerged and were assumed to contribute to the development of cancer.

Several studies published in *Psychosomatic Medicine* reflect research methods and direction at the time. In 1954, Blumberg and colleagues (11) described "A Possible Relationship Between Psychological Factors and Human Cancer." The same issue contained an article by Stephenson and Grace (12) on "Life Stress and Cancer of the Cervix." In 1955, Reznikoff (13) reported "Psychological Factors in Breast Cancer: A Preliminary Study of Some Personality Trends in Patients with Cancer of the Breast." In 1956, Fisher and Cleveland (14) described the "Relationship of Body Image to Site of Cancer." and Greene and Miller (15) described psychological factors and family dynamics in children who developed leukemia. These studies were of theoretical interest to mental health professionals and were reported in psychiatric and psychoanalytic journals, but they were not of interest to the developing field of oncology. Unfortunately, the studies were usually not done in collaboration with cancer physicians and surgeons, who had little or no interest in these speculative approaches to etiology. The "disconnect" between these early investigators and physicians working in cancer led to a delay in the development of prospective studies of patients that explored both medical and psychological perspectives and ensured an integrated approach to their care.

Hackett (16) offered a critique of this period: ". . .the

message [from psychosomatic studies] came across quite distinctly that the pay dirt was embedded in psychology. Placing such weight on the importance of emotional issues in the etiology of an illness disengaged the attention of internist and surgeon alike. The psychosomatic movement, with some exceptions, loosened even more the moorings of psychiatry to medical pragmatism."

By the 1960s and 1970s, clinical and experimental psychologists began to study patients with more quantitative measures and finally with methods that permitted exploration of interactions between the physiological and the psychological, as exemplified by the work of Mason (17) and colleagues.

The psychosomatic medicine movement later branched into two areas relevant to cancer: psychoneuroimmunology and consultation-liaison psychiatry. The work of Ader and Cohen (18) established the beginnings of psychoneuroimmunology in 1975, when they reported a conditioned taste aversion, using saccharin as the stimulus, that resulted in a conditioned immune response in rats. The work in this area was important in fostering research in cancer because it contributed to the understanding of conditioned nausea and vomiting as a learned response in patients undergoing chemotherapy. Studies have shown that patients, years after chemotherapy is finished, are sensitive to visual and olfactory stimuli that are reminders of chemotherapy and that such sights and smells still produce transient nausea and anxiety. For example, the sight of the nurse or doctor, the smell of an antiseptic, or the perfume worn by the nurse will elicit symptoms (19).

Psychoneuroimmunology used newer techniques that tracked biological events and measured psychological phenomena in a far more precise way, truly embodying the biopsychosocial concept of Engel (20). Researchers also have explored the impact of stress and coping on immune function during the course of cancer treatment (21, 22). The significance of psycho-immune mechanisms as factors in cancer risk and survival remains unclear, and investigators have been modest in their interpretation of the findings in cancer (23). But psychoneuroimmunology clearly has become an independent field.

Psychosomatic medicine has been viewed by some as a field that has been fragmented and weakened. A recent critique by Brown (24), delivered at the New York Academy of Medicine, chronicled "The Rise and Fall of Psychosomatic Medicine" and the reasons for it. Gottlieb (25), in a lecture entitled "Whatever Happened to Psychosomatic Medicine?," explored the demise of psychoanalytic psychosomatic medicine as

psychiatry moved toward a neuroscience focus and medicine moved toward molecular biology.

Weiner (26), in an editorial to celebrate the 60th anniversary of *Psychosomatic Medicine* and the establishment of the American Psychosomatic Society, expressed a different and more optimistic view, suggesting that reports of its death are grossly exaggerated. His view is that psychosomatic medicine, as a field, has made and continues to make significant contributions to an integrative theory of medicine. Weiner noted: “. . .the last 60 years have shown that conceptual fashions come and go, but integrative concepts and principles have survived and have become increasingly sophisticated.” “Psychosomatic medicine also recognizes that. . .disease is an abstraction and should not be the sole focus of the healer’s attention: the patient should be, a notion that is found in Hippocrates’ writings” (26). This inclusive view, which incorporates information from genetics, physiological, psychological, and social domains, well describes the principles on which psychosomatic medicine has developed and progressed with increasingly more scientifically sound research.

The second identifiable field that grew out of psychosomatic medicine was consultation-liaison psychiatry, which, in terms of cancer, focused on understanding the psychological burden of patients with cancer. Eissler in 1955 (27) and Norton in 1963 (28) made detailed and sensitive observations of their patients who, during psychoanalysis, developed cancer. These fortuitous studies provided rich material for those beginning to work in the field in the 1960s as to how patients coped with progressive stages of illness and approaching death.

In the early 1950s, several prospective studies began to examine the psychological response of hospitalized patients to cancer, providing the first opportunity for collaborative research with the physicians treating cancer. The shared research effort led to more trust between psychiatry and medicine and to closer collaboration. The first reports of psychological adaptation to cancer and its treatment were made by the psychiatric group at the Massachusetts General Hospital, under the direction of Finesinger, and the psychiatric research group at Memorial Sloan-Kettering Cancer Center, under Sutherland, also a psychiatrist. By 1955, these two centers had published the initial papers documenting the psychological reactions to cancer and its treatment (29–32). Guilt and shame were described, by Abrams and Finesinger (29) as a prominent psychological response related to the stigma of cancer. Shands and colleagues (30), also at Massachusetts General Hospital, observed how patients’ communication patterns changed over the stages of illness, noting

that communication became more limited as the disease progressed, likely as they responded to the expectation that progressing illness was not to be discussed. It is important to note the early contributions of social work to the psychological care of cancer patients. Ruth Abrams, a social worker at the Massachusetts General Hospital, contributed to these early observations of patients, as did other social workers, by providing the first psychosocial services to patients with cancer. Much credit goes to these pioneers. Also to be recognized are the contributions of nurses at the bedside, who intuitively provided psychological support and later were increasingly trained to give psychosocial care, guided by early nursing researchers such as Jeanne Quint Benoliel.

The group at Memorial Sloan-Kettering Cancer Center focused on the patients’ responses to the radical surgical procedures of the day for gynecological, breast, and colon cancer, resulting in colostomy. Major physical and functional deficits were the cost of possible cure. The group described, in two seminal papers that are still highly relevant, the responses to colostomy and radical mastectomy (31, 32). The psychiatric groups at these two hospitals (both comprised of psychiatrists, psychologists, and social workers) began to forge clinical and research ties with treating surgeons, radiotherapists, and oncologists; thus, collaborative work began to establish the first building blocks of what later became psycho-oncology.

Another early area of psychological intervention occurred in the 1960s, when the first debates began in this country about the wisdom of never revealing the diagnosis of cancer to the patient. Psychiatrists were active as participants (on the “do tell” side) of these lively debates with oncologists, who were often on the “never tell” side. In a survey by Oken in 1961 (33), more than 90% of physicians in this country did not usually reveal the diagnosis to the patient. The argument that many people preferred to know the truth and more harm was done by telling a lie began to be persuasive. The same questions asked in a survey in 1978 showed that 97% of the doctors in the same geographic area were now telling patients their cancer diagnosis (34). Over the course of those intervening 17 years, the public’s knowledge about cancer increased, and we saw patients, consumers, and women mount their respective rights movements, encouraging a more equitable and less paternalistic dialogue about diagnosis and treatment. Also, as more types of cancer were cured, optimism about outcome made it easier to discuss these matters. However, the candor of American doctors in revealing cancer has not been matched in many other countries, where the custom of “seldom telling” continues (35).

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Another factor in the 1960s that heightened interest in psychological issues in cancer was the work of psychiatrist Elizabeth Kubler-Ross. She challenged the taboo against talking to cancer patients about their impending death and challenged doctors and nurses to stop avoiding these patients and to listen to their concerns. Kubler-Ross (36) galvanized both public and medical attention to recognize the isolation of dying patients and their need for dialogue about their situation. Her contributions were crucial to the beginning of the thanatology movement in this country, to fostering the concept of hospice care, and to humanizing end-of-life care.

However, the attitudinal barrier against “all things mental,” even among medically ill patients, has not disappeared, and it must be recognized as a factor in the slow development and use of psychological and psychiatric services. Patients with cancer today fear being labeled not only as a person with cancer but as a person who needs psychological help. They fear being labeled as “psychiatric,” “psychological,” or “weak” if they seek help. To overcome this barrier, psychosocial services developed today must be seamlessly and fully integrated into the oncology services. The mental health professional must be seen as a member of the medical team, with evaluations and clinical services given at the same geographical location to reduce the barrier that comes from experiencing supportive services as separate, distanced, and, hence, subject to the stigma that remains to using our services.

FORMAL BEGINNING OF PSYCHO-ONCOLOGY: 1975

The subspecialty of psycho-oncology began formally around the mid-1970s, when the barrier to revealing the diagnosis fell and it became possible to talk with patients about their cancer diagnoses and the implications for their lives. This coincided with several social changes. First, the public felt a greater sense of optimism about cancer, due principally to the presence of increasing numbers of cancer survivors who were vocal about their successful outcomes, in contrast to prior times, when they remained silent because of the illness' stigma and the fear of repercussions at their job. Second, celebrities began to permit the media to cover their illness, revealing both the diagnosis and treatment. Most notable examples were Betty Ford and Happy Rockefeller in 1975, as well as Betty Rollin in *First, You Cry* (37), her account of breast cancer. Last, this period saw a surge of powerful social movements championing human rights that were the legacy of the Vietnam era, directing the nation's attention to previously underserved individuals: women, consumers,

and patients. As a result of all these factors, cancer came out of the closet, and the door opened for exploration of the psychological dimension of cancer.

The door was further opened for psychosocial and psychiatric cancer research in 1975, when a small group of clinical investigators gathered in San Antonio, Texas, for the first national research conference on psycho-oncology (38). It addressed first the barrier posed by the lack of instruments to quantitatively measure subjective symptoms such as pain, anxiety, and depression. Instruments designed for the study of physically healthy patients with psychiatric disorders were not calibrated to measure these types of distress in the medically ill. The American Cancer Society supported the initial research in this area and sponsored several conferences at which instruments were developed to quantitatively measure subjective symptoms of pain, anxiety, nausea, depression, and delirium. The psychiatric group at Memorial Sloan-Kettering, which began in 1951 and dispersed in 1961, was reestablished in 1977 and began to develop clinical services, a postgraduate training program comprising didactic and clinical tutorial experiences for psychiatrists and psychologists, and a research initiative (39). As a critical mass developed, the group (collaborating with the American Cancer Society and the National Cancer Institute) was able to serve as a force for national and international development of psycho-oncology.

By the mid-1970s, the consultation-liaison psychiatrists working on inpatient cancer floors or in psycho-oncology units were the first wave of investigators; as such, they explored the epidemiology of comorbid psychiatric disorders that most often complicated cancer care: depression, anxiety, and delirium (40). The Psychosocial Collaborative Oncology Group under Schmale led to the multicenter, cross-sectional study by Derogatis and colleagues (41) of the frequency and type of DSM-III diagnosis in cancer patients, which showed a 47% prevalence of psychiatric disorder, most often adjustment disorder. Studies began to document the frequency of depression by site and stage of cancer, acknowledging the difficulties in separating physical from psychological symptoms; the causes and course of delirium; the causes, both functional and treatment-related, of anxiety; the relationship of all to the presence of pain and impaired cognitive functioning. Clinical trials began of psychosocial and psychopharmacologic interventions. An account of this research literature and clinical experience appeared in the first textbook of psycho-oncology published in 1989 (39). The opportunity for teaching oncology staff about these issues increased as a curriculum and research studies became available for use in teaching rounds, in-service workshops, and national confer-

ences. Group sessions for oncology staff also grew in popularity as a place where doctors and nurses could explore countertransference as well as study staff-patient communication and the impact of stress on oncology staff (42).

The behavioral medicine movement began around the late 1970s and brought a second wave of researchers to the psychosocial aspects of cancer. Health psychologists brought a new and valuable dimension to this research. They began to study theoretical models of coping and identifying those that were effective. They brought cognitive-behavioral models of psychological interventions that have proved widely acceptable and efficacious. The development of theoretical models on which to build psychosocial and behavioral interventions has been critically important. Behavioral psychologists have given cancer prevention its strongest boost by their studies of how to change lifestyle to reduce cancer incidence. Their work in smoking cessation research is seminal and provides insight into promoting lifestyle changes in sun exposure, diet, and exercise to reduce cancer risk. Although Schipper, an oncologist, and colleagues in Winnipeg, Canada, developed a quality-of-life scale in the early 1980s, it was the health psychologists who validated the quantitative measurement of quality of life (functional status) as an outcome measure in cancer clinical trials (43). Aaronson (44) in Europe (European Organization for Research and Training in Cancer) and Cella and colleagues (45) in the United States have developed extensively used scales comprising a core set of questions with modules to apply to specific tumor sites. Evaluation of a new drug or cancer treatment today assesses not only impact on length of survival and disease-free interval but also quality of life as a quantifiable outcome measure. Combining quality-of-life data with survival data now permits statistical approaches to determine "quality-adjusted life years." Many other instruments have been developed by others for symptom assessment, patients' unmet needs, and screening for psychosocial distress. All add to the richness of instruments that now are available to the psychosocial or behavioral researcher in cancer.

Other important contributions, in recent years, to psycho-oncology have come from nursing researchers. This cadre of contributors often combine their astute insights gleaned from a nursing background with psychological research methodology to make unique contributions to symptom measurement and control (46), palliative care (47), pain management (48), and psychosocial support (49).

As mentioned earlier, social workers were the first, alongside nurses, to attend to the psychological and social problems of cancer patients and their families.

They have continued as the "front line" in clinical care and as important researchers in psycho-oncology. Studies of children's and parent's reactions, distress management, caregivers' burden, and especially palliative care, have been within their purview of contributions (50–53). *The Journal of Psychosocial Oncology*, established in 1983, was the first journal dedicated to informing the field about current research.

Only in recent years have the contributions to psycho-oncology by clergy and pastoral counselors been acknowledged and has recognition been given to the fact that the psychosocial aspects of dealing with the existential crisis of life-threatening illness and death includes the spiritual and religious domains, reflecting the patients' need to find a tolerable meaning in the situation. In fact, serious illness has been called a "psychospiritual" crisis by some (54). This newest area of psycho-oncology has received major contributions to methodology by Pargament (55), a psychologist, and others. Scales to measure patients' spiritual beliefs and reliance on them in coping with cancer have been developed, as have spiritual assessment tools for clinicians. A recent special issue of *Psycho-Oncology* (56) reviews current spiritual and religious belief studies in psycho-oncology.

The contributions from psychiatry, behavioral medicine, health psychology, social work, nursing, and pastoral counseling, as well as from oncologists, ethicists, and patients themselves, have created a richness and diversity of information, and theoretical models and approaches, both in research and clinical cancer care. The most successful psycho-oncology, psychosocial, and behavioral oncology units have been those able to use this diversity to their advantage by evaluating patients and referring them to the most appropriate resource. These units function as truly multidisciplinary organizations, drawing on the knowledge of each to enrich the others while remaining fully integrated in the patients' total medical care. Jacobsen's Behavioral Oncology Unit at the H. Lee Moffitt Cancer Center in Tampa, Florida, is a model of this successful structure.

The range of areas of psycho-oncology, and the remarkably expanded range of interventions, have been described in the multiauthored textbook *Psycho-Oncology*, published in 1998 (1). The journal *Psycho-Oncology*, begun in 1992 to cover the psychological, social, and behavioral dimensions of cancer, seeks to make new research findings available from each area and thereby serves as an integrating force as the official journal of the International Psycho-oncology Society, the British Psychosocial Oncology Group, and the American Society of Psychosocial and Behavioral On-

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ology/AIDS. Special issues on such topics as the family, spiritual dimensions, and survivors encourage an overview of research in one area. (For more information, see the society's website: www.ipos-aspro.org.)

THE NEED FOR AN INTEGRATIVE MODEL

The fact that so many disciplines contribute to psycho-oncology speaks to the breadth of issues involved in understanding and treating the psychosocial problems of cancer patients and their families. An integrative model would be useful to adequately explain the struggle patients face as they deal with the physical symptoms of disease and the psychological, social, spiritual, and existential crises it produces.

The diagnosis of an illness like cancer, with the fears attached to it and the threat to life itself, results in a complex set of issues: dealing with *physical symptoms*, including those arising from treatment; seeking to *cope* with the situation; coming to grips with the *existential* dimension of the illness; feeling concern for the *family*, who is affected by cancer; and seeking a comforting philosophical, spiritual, or religious *belief* structure or values that give meaning to life and death.

Shakespeare, in *King Lear*, eloquently expressed the totality of the issues raised by life-threatening illness: "...We are not ourselves when nature, being oppressed, commands the mind to suffer with the body."

The core of psycho-oncology addresses this "suffering of the mind" that occurs with cancer. It incorporates the psychological, social, spiritual, and existential dimensions and seeks to help the patient find a tolerable meaning to the presence of the unwelcome intruder of serious illness and threat to the future and to life itself. Finding a theoretical model that incorporates all aspects of "suffering of the mind" would serve as an integrative force in our work in psycho-oncology while recognizing that each discipline continues to bring unique knowledge, skills, and experience that address a particular domain of the patient's concerns and "suffering."

Recently, interest has grown in the role of seeking and finding meaning as an important aspect of coping with illness and loss. Folkman (57) has proposed a revision of the original Lazarus and Folkman stress and coping paradigm to include "making meaning." Developed from studies of patients with AIDS and their caregivers, the revised model provides a framework for understanding coping with life-threatening illness and the "suffering of the mind" that accompanies serious illness and loss (Figure 1). It is a conceptual base from which to understand the range of interventions used to facilitate coping. As such it may, with further research, provide an integrative principle to

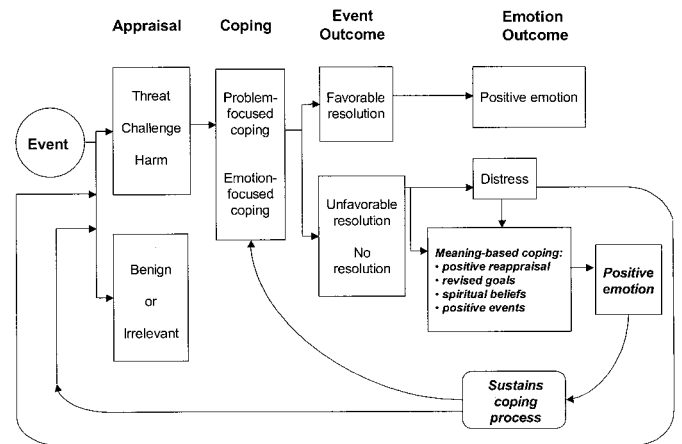


Fig. 1. Revised model of Folkman's original Lazarus and Folkman stress and coping paradigm (57).

guide the researchers from the diverse disciplines that contribute to psycho-oncology.

Folkman suggests that each individual develops a "global meaning," comprising beliefs, values, goals, and self-image, that evolves and persists over a lifetime. Global values are challenged by a catastrophic situation such as a diagnosis of cancer or loss of a loved one, which has a "situational meaning." Coping is directed toward reconciling global (lifelong) meaning with the situational meaning through appraisal and reappraisal using problem solving, emotional control, and "meaning making." The goal is to arrive at a new balance between the global and the situational that permits continued coping. An example is the young long-distance runner who requires amputation of a leg for osteosarcoma. The runner must reconcile the loss to fit his lifelong goals or alter his global meaning to incorporate the loss. The contributions of spiritual beliefs can be understood in the context of meaning making, along with the range of coping strategies and psychosocial interventions.

ACCOMPLISHMENTS: 1975 to 2001

Psycho-oncology is presently defined as the subspecialty of cancer dealing with two psychological dimensions: 1) the psychological reactions of patients with cancer and their families at all stages of disease and the stresses on staff; and 2) the psychological, social, and behavioral factors that contribute to cancer cause and survival.

There have been truly revolutionary improvements in the understanding of cancer biology and development of new cancer treatments in the past two decades. However, each new therapy carries with it new psychological challenges for patients with significant

neuropsychiatric and psychological complications. Preclinical cancer, in which positive markers are present in the absence of clinical findings, is the challenge for healthy people, as is genetic counseling, which has implications for the family as well. Hackett (16), again, said it well: "As our colleagues in medicine explore new kingdoms of life-saving technology, we often find psychological wrecks in their wake. We can help to reconstitute these people. Our interventions can be life-saving."

Because of this, the close interaction with cancer clinicians and investigators has been critically important. Our field's strength, and the reason for its fascinating and challenging nature, is that it simultaneously addresses the new psychological challenges patients with cancer face while seeking to apply and test new approaches in psychotherapies, behavioral interventions, and psychopharmacologic agents coming from general psychiatry, consultation-liaison psychiatry, health psychology, and behavioral medicine. It ensures that psycho-oncologists have a keen interest—and one foot—in both oncology and psycho-oncology.

Figure 2 shows the research model that has guided our work through the 1990s. Cancer (and its treatment) is the independent variable; quality of life (in all its dimensions, including psychological) and survival are the outcome variables. The mediating variables (and

our interventions to affect them) are the core of psycho-oncologic research. Our studies explore 1) the personal variables of sociodemography, personality and coping style, beliefs, and prior adjustment; 2) the variables associated with stage of illness, rehabilitation options, illness-related behaviors, and the relationship to the treatment team; 3) the availability of social supports (family, friends, community, and sociocultural influences); and 4) concurrent stresses related to illness that add to the psychological burden, such as loss of a spouse.

In 1998, cancer mortality in the United States fell for the first time. Cancer survivors, long out of the closet and strong advocates for better psychological care, now number 8 million. These changes have challenged the initial narrow role of consultation-liaison psychiatry, which was dealing primarily with hospitalized patients. Most oncology care today is given in clinics, not in hospitals, leading us to focus on ambulatory psychosocial services. Figure 3 shows the active role of psycho-oncology throughout the continuum of cancer—from prevention (primary and secondary) and preclinical cancer (known genetic risk or positive cancer markers for a specific cancer in the absence of clinical disease); through diagnosis, curative treatment, survivorship, and cure; to palliative and end-of-life care. Recurrence after a treatment attempt at cure will lead today to noncurative but life-extending ther-

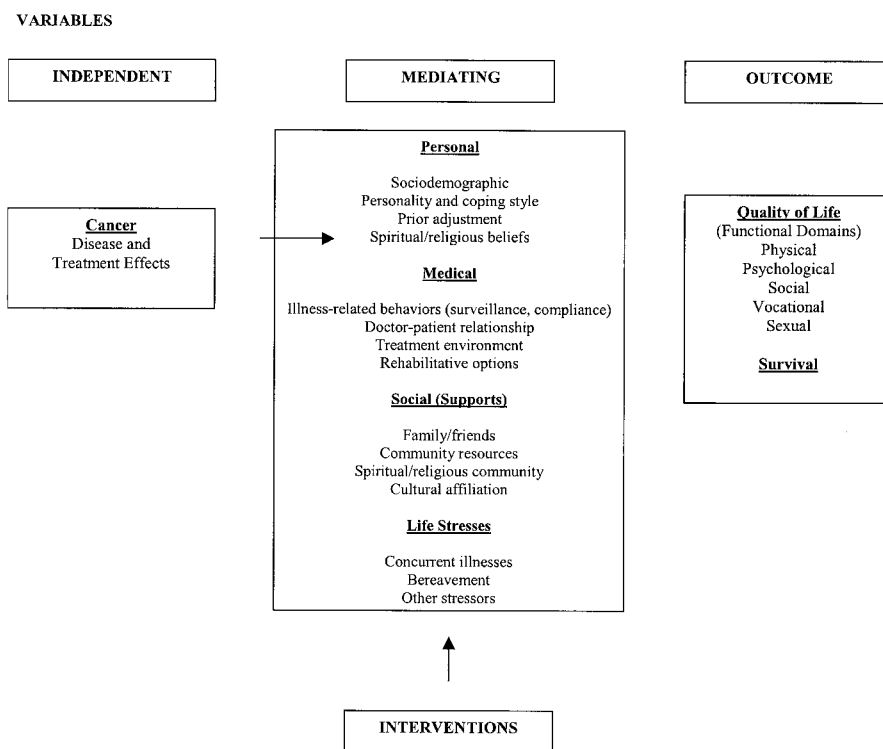


Fig. 2. Model of research in psycho-oncology.

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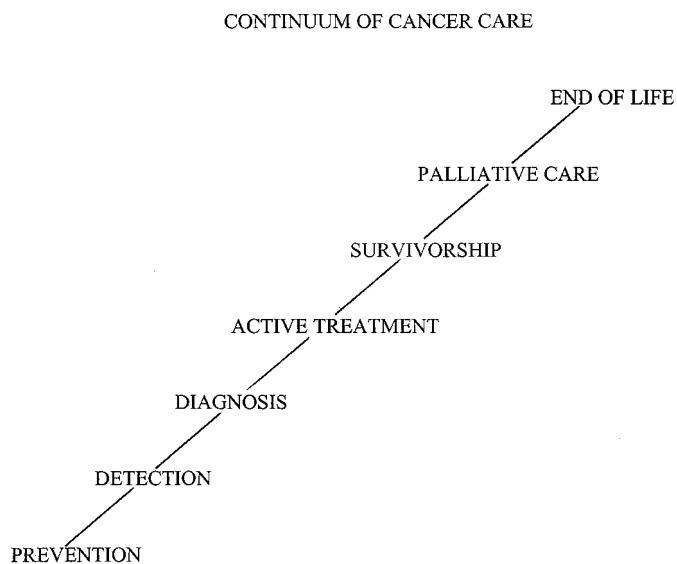


Fig. 3. Contemporary role of the psycho-oncologist.

apies for a stage of illness that can be called chronic disease, best recognized in breast cancer, where women live for long periods receiving second- and third-line chemotherapies that extend survival. Palliative and end-of-life care characterize the phases of illness in which care is directed toward maximal comfort and symptom control (eg, pain, depression, anxiety, and delirium). There is a need for contributions from psycho-oncology to clinical care and research at each phase along the continuum.

Primary prevention of cancer depends on changing behaviors and lifestyle. Smoking prevention and cessation research in psycho-oncology has resulted in models for planning rational interventions for smoking cessation (58). The relationship between depression and smoking has emerged. Prevention and treatment of obesity and attention to exercise and diet are the cornerstone of prevention for both cancer and heart disease.

The genetic basis of increasingly more tumors is becoming known. Although genetic testing is going forward with appropriate attention to counseling (though there are far too few trained genetic counselors), there is still much need to study its psychological and social consequences on patients and their families. The viral cause of more cancers is emerging, particularly the human papilloma virus in cervical cancer, suggesting the need to educate women about exposure and possibly earlier recognition of disease by viral markers and treatment by vaccines. All represent new challenges and areas for behavioral and psychological research.

Cancer therapies create a range of psychiatric and

neuropsychiatric disorders, and new ones will likely continue to present similar issues. Interferon, standard treatment for chronic myelogenous leukemia and metastatic melanoma, creates severe mood and cognitive problems. Immunologic therapies will likely become more important. Presently they are represented by allogeneic transplants and increasing trials of monoclonal antibodies. Cytokines are important for marrow stimulation after chemotherapy, but they too cause fatigue and mood changes. Effects of these agents on brain function will be important, because some basic neurochemical mechanisms may be elucidated by their study. Combinations of chemotherapy agents continue to be developed, and the immediate and long-term effects on cognition, even with standard adjuvant regimens for breast cancer, are becoming apparent and in need of further study (23). In addition, as new therapies are tested, it will be important that patient-reported quality of life be included as an outcome measure in more clinical trials in which an arduous treatment seems efficacious but carries with it a high price in quality of life. More and more, patients have an opportunity to make decisions about therapies offered, and quality-of-life information is important in helping them choose.

Survivors are now numerous, and they have psychological baggage, first described extensively in 1981 by Koocher and O'Malley (59). Side effects of therapies lead many to experience symptoms of posttraumatic stress disorder (PTSD) and conditioned responses. Around 10% to 20% of bone marrow transplant survivors have full-blown PTSD, but a larger percentage have several symptoms of PTSD (60). Those who have gone through the most arduous treatment, such as high-dose chemotherapy or stem-cell transplant, are most vulnerable. Anxiety is a frequent problem for most patients, especially before follow-up visits (61, 62). Psycho-oncology has helped many cancer survivors by elucidating the sexual problems they experience as a result of the consequences of treatment and psychological problems relating to self-image (63).

Management of active care, and even much palliative care, in this decade has moved largely from the hospital to ambulatory care facilities and the home. More treatments are able to be given in the clinic, and more palliative care interventions for symptom control, especially for pain, can be managed in the home. As a result of this change in treatment venue, psycho-oncologists now move to the clinics to be able to provide psychiatric or psychological support in the same or an adjacent space. The need to refer a cancer patient away from the cancer clinic to a psychiatric clinic, results in the loss of many people who still feel the stigma of psychiatric care. Our outpatient center,

which sees more than 1200 patients per year, is called the Counseling Center. More than two-thirds of our work is now with outpatients, as compared with 20 years ago, when it was largely inpatient consultations and treatment. Psychiatrists and psychologists are assigned to work directly in the gynecology, breast, prostate, and pediatric areas to provide the ideal model of psychological care integrated into the medical care.

These moves to clinic and home have created a new burden on families that previously did not exist. This burden requires study and development of better psychosocial services to this largely neglected yet critically important sector (64). There are an estimated 24 million homes in which a chronically ill person is being cared for, often without adequate resources, and many in underserved communities. Models of intervention directed at the family of the patient with cancer are needed.

Psychiatric complications of palliative care have received more attention as end-of-life care has received a greater focus nationally. The study of depression has been important because much of the debate about physician-assisted suicide has failed to recognize the issue of treatable depression as a factor in requests for help with suicide. Several studies have given a clearer picture of depression in advanced cancer and AIDS (65, 66). Research has also addressed the clinical evaluation and measurement of the severity of the delirium and its pharmacologic management (67). This remains a major issue for psycho-oncologists who are doing inpatient work. Because patients in the hospital represent the sickest of the sick (others are discharged), the care of delirious patients becomes a more frequent and urgent problem.

The psychological and psychiatric aspects of pain control have emerged more clearly recently. Behavioral interventions of meditation, hypnosis, and relaxation are useful adjuncts.

An interesting issue has risen in psycho-oncology as alternative and complementary therapies have entered mainstream medicine and especially oncology. Behavioral interventions, based on strong empirical data, are being widely presented as alternative therapies, blurring the lines between traditional interventions and alternative/complementary regimens, especially in cancer. One of the reasons this is happening is the trend to classify every intervention in cancer as "alternative/complementary" if it is not surgery, radiation, or chemotherapy. Dietary changes, prayer, and commonsense approaches people use all the time, including group and individual psychotherapy, are placed in this category. This accounts in part for the inflated figures on the use of alternative/complementary approaches.

A recent study by Burstein and colleagues (68) of women a year after their initial treatment for breast cancer found that the women who reported using alternative/complementary therapies had more distress, were more depressed, had poorer sexual function, and poorer quality of life than their counterparts who had not used them. This suggests that patients may be turning to alternatives as a way to treat distress that is not recognized by their oncologists, and, therefore, they are not being referred for management of their distress within the traditional cancer care system. It may be also that the stigma attached to mental health treatment is a factor and that using an alternative treatment is considered less stigmatizing in today's world (69).

These changes are occurring at the time when the range of psychosocial, psychotherapeutic, and behavioral interventions is broader than it has ever been (70). Group therapies are widely available for patients with cancer, organized by disease site, stage, and often sex. A major impetus to their use was the study of Spiegel and colleagues in 1989 (22), followed by that of the Fawzy and colleagues (71), which reported that group sessions for breast cancer and malignant melanoma had a positive impact on survival. Data from replication studies are not yet available. A meta-analysis by Meyer and Mark (72) was unable to show a survival benefit across a number of intervention studies, though improvement of quality of life was readily apparent. The integration of psychological care into total medical care has been difficult due to the attitudinal barriers mentioned earlier on the part of patients and physicians. Another attitudinal barrier today has been created by the move of cancer care to busy, often understaffed, clinics, where managed care has forced shorter visits that focus on physical symptoms but do not allow time to explore patients' psychological problems. The National Comprehensive Cancer Network (NCCN), an organization of 18 comprehensive cancer centers, established a multidisciplinary panel to develop the first standards for psychosocial care in cancer and the first clinical practice guidelines for the disciplines providing supportive services (73). The standards, based on those developed for pain, require that all patients be evaluated initially and monitored for the level and nature of their psychosocial "distress" (a word chosen to be less stigmatizing). A rapid screen, taken from the 0 to 10 scale used in evaluating pain, has been recommended for screening in the waiting room along with a list of possible physical, psychological, social, and spiritual problems. Preliminary testing of the Distress Thermometer (0–10 scale in a thermometer form) against the Hospital Anxiety and Depression Scale (HADS) finds it acceptable to patients and staff

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and identifies a score of 5 or greater as equivalent to "caseness" using the HADS scale (74). Similarly with the experience of pain, the asking of the question "How is your distress today?," verbally or with pencil and paper, opens a dialogue that would often not otherwise be brought up. Fleishman (personal communication, 2001) found the most common problems were fatigue, pain, worry, sleep, and sadness. The decision-tree guideline provides that a score of 5 or more is the algorithm that triggers the oncology staff to refer the patient to mental health, social work, or pastoral counseling, depending on the nature of the problem. A multicenter trial for validity and feasibility is under way. Clinical practice guidelines were written by the NCCN panel for psychiatric disorders common in cancer patients; these guidelines included the first treatment guidelines for social work and pastoral counseling (73). (Guidelines available on request.)

These NCCN standards and guidelines provide the first "gold standard" for psychosocial care, arrived at jointly with input (and buying in) from oncologists and all supportive care disciplines. The American College of Surgeons' Commission on Standards and the Association of Community Cancer Centers have adapted their standards to incorporate these concepts. The goal is now to approach regulatory agencies, such as Joint Commission of Accreditation of Healthcare Organizations and Healthplan Employer Data and Information Set (HEDIS), to include psychosocial care in their reviews of quality of care.

CONCLUSION

At the beginning of a new millennium, the good news is that a psycho-oncology unit exists in virtually all cancer centers and community hospitals; these units usually comprise a multidisciplinary group that offers psychosocial services and maintains the staff's awareness of these issues in patient care. The base of information is far broader and more accessible. The collegiality across disciplines is far better than in the past, as better integration of mental health disciplines occurs in new units. Some cancer clinics have mental health professionals available during clinic hours for consultation. This ideal model is expensive, but patients perceive that concern for their psychological well-being is part of their total care. The reimbursement for services is woefully small, however, and as hospitals retrench, the resources for psychosocial care are apt to be the first to go. The foothold is present, but it is not secure.

The training of psycho-oncologists and the encouragement of young clinicians and investigators into the field remains critically important to have excellent

candidates to develop new psycho-oncology units in community hospitals and cancer centers able to address clinical and research needs. A training curriculum that provides an outline of the major topics and their didactic and experiential aspects has been developed (75). Trainees from psychiatry are needed in psycho-oncology, particularly in areas where a knowledge of medicine and psychiatry is important, as in palliative care and symptom control. Psychologists interested in health continue to form the central cadre of researchers and investigators, especially in cancer prevention, early detection, genetic testing, and the emerging field of psychoneuroimmunology, where the possible links to cancer risk and survival are being explored. This pool of investigators has not diminished, and the National Cancer Institute is placing greater emphasis on prevention research, palliative care, communication research, and the psychiatric, neuropsychiatric, and cognitive consequences of cancer treatment.

The research agenda is both exciting and challenging with many questions that beg for study. What is the impact of coping style, social support, and social class on cancer morbidity and mortality? More importantly, what is the mechanism? What is the role of spiritual and religious beliefs in coping with cancer? What are the immunological consequences of distress, during and before cancer, on outcome? What is the best psychotherapeutic approach for which patient with cancer? There is a need for an approach that takes into account the existential crisis of patients with cancer. What are the factors that contribute to adherence to treatment, particularly which aspects of the doctor-patient relationship? What does quality of life *really* measure, and what do these multidimensional data mean at a clinical level? How can they be used? As a guide for the clinician? As a predictor of outcome? What are the effects of cancer, chemotherapeutic responses, cytokines, and immunological therapies on the central nervous system, and is there information there that would be valuable in understanding mood and cognitive disorders in healthy individuals? What studies need to be done to move us from consensus-based treatment guidelines to empirical-based interventions?

Psycho-oncology is only about 25 years old, and much progress has been made in that short period. In keeping with Weiner's (26) view that psychosomatic medicine has, over the years, consistently contributed integrative principles in medicine, psycho-oncology has contributed similar principles in cancer. It has an accepted place at the table within the oncologic community, both in clinical care and in research. The traditional domain of inpatient consultation has ex-

panded greatly along the continuum of cancer care to include primary and secondary prevention at one end and survivors and palliative care at the other. Our present body of information rests on a large literature database. Implementation of what we know *now* could greatly improve the psychological well-being and quality of life of patients. As noted by Greer in 1994 (76), "The most immediately important task of psycho-oncology is to close the yawning gap between current knowledge and actual clinical care of patients."

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