Overview

Sir William Osler, the eminent nineteenth century clinician, said “the good physician will treat the disease, but the great physician will treat the whole patient.” The MBMD™ (Millon™ Behavioral Medicine Diagnostic) inventory is designed to provide the critical psychological information doctors need to treat the whole patient.

The MBMD inventory represents a substantial upgrading of the MBHI™ inventory (Millon Behavioral Health Inventory; Millon, Green, & Meagher, 1979, 1982). It is a 165-item, self-report inventory with 29 clinical scales, three Response Patterns scales, one Validity indicator, and six Negative Health Habits indicators. It is designed to assess psychological factors that can influence the course of treatment of medically ill patients.

MBMD Domains

The following paragraphs summarize the logic behind the seven MBMD domains. The first two domains (Response Patterns and Negative Health Habits) assess response patterns and problematic behavior that will alert the clinician to issues that deserve attention. The next five MBMD domains assess psychiatric or psychosocial variables that may shape the way patients deal with health problems and identify attitudes that may exacerbate their ailments and interfere with their overall prognosis. They are Psychiatric Indications, Coping Styles, Stress Moderators, Treatment Prognostics, and Management Guides.

Response Patterns

Numerous users of the MBHI inventory noted that it lacked scales that assess problematic response styles or distortions that may affect the reliability or validity of the test results. Guided by the MCMI inventories, three scales (Disclosure, Desirability, and Debasement) were devised to help clinicians identify such tendencies and to correct for their effects on the instrument’s clinical scales. There is also a Validity indicator to detect random responding, confusion, and reading problems.

Negative Health Habits

These six indicators address troublesome lifestyle behavior. These indicators, though brief, correspond very highly with the judgment of knowledgeable clinicians. We think it can be of considerable help to health psychologists, physicians, and nurses to know about their patients’ negative health habits. The indicators in this domain are Alcohol, Drug, Eating, Caffeine, Inactivity, and Smoking.

Psychiatric Indications

Many health psychologists who have used the MBHI inventory have found that their referral sources (often physicians) were primarily interested in whether psychiatric conditions might complicate the treatment of a patient’s physical illness. After reviewing the literature, we selected five areas that we believe are most likely to create problems in
Overview of the MBMD (Millon Behavioral Medicine Diagnostic)

medical treatment and that have their roots in a fundamental psychiatric disturbance. Among the scales that assess these areas are Anxiety-Tension and Depression, which prove to be highly correlated with other single-focus instruments and independent clinical staff ratings. This domain also includes the Cognitive Dysfunction, Emotional Lability, and Guardedness scales.

Coping Styles
We have expanded the number of Coping Styles scales in the MBMD inventory. Since the publication of the MBHI inventory in the 1970s, there has been a burgeoning in the research and scholarly literature concerning coping styles. The authors’ guiding theory, the DSM, and behavioral medical research have progressed substantially, justifying the expansion of these coping styles. The MBMD Coping Styles scales are Introversion, Inhibited, Dejected, Cooperative, Sociable, Confident, Nonconforming, Forceful, Respectful, Oppositional, and Denigrated.

Stress Moderators
There has been a vast increase in the literature concerning stress moderators that affect healthcare and functioning. We have borrowed carefully from this literature to ensure that the stress moderators we selected as scales can be well supported empirically. One of these scales, Spiritual Absence, was included based on evidence that patients who feel connected to a spiritual source often fare better with a serious illness than those who do not have such beliefs. The other scales in the Stress Moderators domain are Illness Apprehension, Functional Deficits, Pain Sensitivity, Social Isolation, and Future Pessimism.

Treatment Prognostics
Clinicians who use a behavioral health-care inventory need a guide to matters that may seriously affect the course of a patient’s illness. This is what we sought to do in constructing scales for the Treatment Prognostics domain. We verified the scores against the ratings of knowledgeable clinicians (PhDs, RNs, and MDs who were well acquainted with the patients they rated). We were able to construct validated scales for five behavioral features (Interventional Fragility, Medication Abuse, Information Discomfort, Utilization Excess, and Problematic Compliance).

Management Guides
This domain reflects professional summaries of the preceding scales regarding areas of action that might facilitate a sound, behaviorally based treatment program for the patient. The scales in this domain are Adjustment Difficulties and Psych Referral.

Uses
The MBMD inventory was developed to help clinicians (health, rehabilitation, and clinical psychologists; primary care physicians; nurse practitioners; consulting psychiatrists; and psychiatrists) who deal with physically ill and behavioral medicine patients. Its purpose is to enhance the clinician’s psychological understanding of his/her patients and to facilitate the steps required to develop an effective treatment and management plan. The computer-generated profile and interpretive reports provide the clinician with information regarding the patient’s negative health habits, psychiatric status, likely style of coping with his/her illness, stress moderators, treatment prognostics, and other potentially problematic and healthful psychosocial behaviors and attitudes. The bariatric interpretive report includes a Bariatric Summary, which addresses attributes and considerations that are relevant to candidates for bariatric surgery.
Limitations and Qualifications

The MBMD inventory was developed for and normed using a variety of medical populations. As such, it is appropriate for use with adult clinical and rehabilitation patients (18–85) who are undergoing medical care or surgical evaluation. The bariatric report is specifically for patients who are being evaluated for bariatric surgery.

Those who are responsible for supervising the use of the MBMD inventory and its reports should have a specialized degree in a healthcare field and accompanying licensure or certification. The MBMD automated interpretive report is considered a consultation from one professional to another, and it is the responsibility of the consultee to use the report as only one facet of a total patient evaluation and to recognize that the information it contains is of a tentative nature, rather than definitive, and is not designed to make medical diagnoses. It offers psychological rather than medical assessments. The integration of selected features of the report into ongoing management and treatment decisions with patients is fully appropriate, but the direct sharing of the report’s explicit content with patients or their relatives is generally discouraged. Interpretive reports are considered trade secrets and should not be shared with patients under HIPAA (Health Insurance Portability and Accountability Act).

MBMD Scale Descriptions

Response Patterns

Validity
The Validity indicator is composed of two highly improbable items (Item 106: “I flew across the Atlantic more than 30 times last year” and Item 124: “I was on the front cover of several magazines recently”). A True response receives a score of 1; a False response receives a score of 0. If the Validity score is 2, the protocol is considered invalid. A score of 1 indicates questionable validity, and a score of 0 is considered valid. A score of 1 or 2 on the Validity indicator may indicate inadequate reading skills, confusion, or random responding. Clinicians are advised to be cautious when interpreting questionable protocols.

Disclosure (Scale X)
The Disclosure scale (Scale X) was designed to determine whether the patient is inclined to be overly frank and self-revealing. Typical items on this scale include “I protect myself by not letting people know much about my life” and “I think it’s best not to trust anyone.”

Desirability (Scale Y)
The Desirability scale (Scale Y) identifies the degree to which the patient’s results may have been affected by his/her desire to appear socially attractive, morally virtuous, or emotionally well-composed. Higher scores indicate a greater likelihood that the patient is concealing important psychological stressors or behavioral problems. Typical items on the Desirability scale include “I have always had a talent for being successful” and “I have many very good and close friends.”
Overview of the MBMD (Millon Behavioral Medicine Diagnostic)

Debasement (Scale Z)
The Debasement scale assesses the patient’s tendency to present many minor and major symptoms, sensations, and experiences in his/her communication with the healthcare provider. In general, this scale reflects tendencies that are the opposite of those detected by Scale Y. However, on occasion, both scores can be high, especially among patients who are unusually self-revealing. Typical items on this scale include “I have a habit of making my problems sound worse than they really are” and “I sometimes exaggerate how poorly I am feeling.”

Negative Health Habits

Alcohol (Indicator N)
The Alcohol indicator notes the presence of an alcohol consumption problem. Patients may endorse one or both of the following items: “It is difficult for me to get through the day without a few drinks” and “Members of my family have complained recently about my drinking.”

Drug (Indicator O)
The Drug indicator is associated with greater use of nonprescription drugs and a greater likelihood that the patient has developed a dependency on one or more of these substances. Typical items include “I have told lies to my family to conceal my use of drugs” and “Taking drugs has been a regular part of my social life.”

Eating (Indicator P)
The Eating indicator assesses the presence of a relatively chronic overconsumption problem. There are numerous problems recorded in the general population regarding overconsumption (e.g., obesity). The following items have been identified as most useful in assessing this lifestyle problem: “I’ve been overweight ever since I was a child,” “I’m a yo-yo dieter; my weight goes up and down,” and “I always overeat when I’m depressed or under stress.”

Caffeine (Indicator Q)
The Caffeine indicator reflects whether the patient’s consumption of caffeine is excessive. Items include “I get very irritable if I haven’t had a cup of coffee for a few hours” and “I need plenty of caffeine to get me through the day.”

Inactivity (Indicator R)
The Inactivity indicator notes whether the patient engages in physical exercise on a regular basis. This indicator is important because a sedentary lifestyle may carry some risks for cardiovascular disease. Typical items include “I rarely find the time to exercise,” “I’ve tried exercise programs, but I just can’t seem to stick with them,” and “I know I should exercise, but I just can’t get started.”

Smoking (Indicator S)
The Smoking indicator notes whether the patient smokes tobacco products on a regular basis. There is little question that smoking causes and aggravates many medical problems, especially those associated with heart disease and cancer. The Smoking indicator items are “I smoke about a pack of cigarettes a day,” “I’ve tried to quit smoking many times, but I always start again,” and “I get irritable if I go too long without a cigarette.”

Psychiatric Indications

Anxiety-Tension (Scale AA)
It is not unusual for medical patients to experience greater stress than they did before they got sick. High levels of anxiety and tension are found to be related to the incidence
and severity of numerous disorders and diseases. Qualitative studies of chronic stress, such as persistent job tension or marital problems, demonstrate its impact on several medical ailments. High scorers on the Anxiety-Tension scale may suffer from numerous somatic disorders, especially those associated with the cardiovascular and digestive systems. Items on the MBMD Anxiety-Tension scale include “I’m on edge a lot lately” and “I feel jumpy and under strain, but I don’t know why.”

**Depression (Scale BB)**
Depression is a major correlate of medical disorders and is itself a risk factor for early mortality. It can be a consequence of patients’ awareness of their increasing infirmity or imminent death. This psychic state is also implicated in the exacerbation of a variety of diseases. The MBMD Depression scale differs from the other depression indices on the inventory (the Dejected and Future Pessimism scales) in that it focuses on the patient’s vegetative or mood state, such as poor appetite, social withdrawal, discouragement, guilt, behavioral apathy, self-deprecation, and loss of interest in pleasurable activities. High scorers on the Depression scale tend to interpret life as a series of troubles and misfortunes and are likely to intensify the discomfort of their real physical and psychological problems. MBMD Depression scale items include “I’ve lost interest in things that I used to find pleasurable” and “I have been having serious thoughts about suicide.”

**Cognitive Dysfunction (Scale CC)**
It is in the realm of developmental deterioration and the destruction of brain structure that the Cognitive Dysfunction scale may prove its greatest utility. It assesses the capacity to recall past experiences, to think abstractly, and to represent events and interrelate and process them symbolically. The Cognitive Dysfunction items include “I often get confused about what is happening to me” and “Loss of memory has been a big problem for me.”

**Emotional Lability (Scale DD)**
Patients with a high degree of emotional lability are not common in most medical populations. They are, however, an especially troublesome population psychiatrically, approaching clinical features akin to the symptoms of borderline personality. These patients experience intense endogenous moods and exhibit recurring periods of dejection and apathy, often interspersed with spells of anger, anxiety, or euphoria. Overall, they are typified by dysregulation of their affect and instability in their moods, perhaps manifested in repetitive suicidal thoughts or self-mutilation. Items on this scale include “I’m very erratic, changing my feelings all the time” and “My feelings toward my relatives often swing back and forth from love to hate.”

**Guardedness (Scale EE)**
The Guardedness scale identifies medical and surgical patients who display mistrust and an edgy defensiveness against those they see as hostile and deceptive. Some of these patients exhibit irritability and suspiciousness, and they often provoke annoyance, if not exasperation, on the part of healthcare providers. Items on this scale include “I watch out for people trying to cheat me” and “No one needs to know my business.”

**Coping Styles**

**Introversive (Scale 1)**
High scorers on Scale 1 (Introversive) are rather colorless, emotionally subdued, quiet, and untalkative. They may seem to be unconcerned about their problems. Typi-
Overview of the MBMD (Millon Behavioral Medicine Diagnostic)

cally, they lack energy, are communicatively vague, are difficult to pin down concerning their symptoms, and may be passive with regard to taking care of their physical needs. Some patients with high scores on the Intro- versive scale may have become withdrawn as a way of coping with a chronic illness or the infirmities of aging. Typical items on this scale include “I’ve always preferred to have a quiet and inactive life” and “My emotions don’t seem to be as strong as other people’s.”

Inhibited (Scale 2A)
High scorers on Scale 2A (Inhibited) tend to be hesitant with others and are often shy and ill-at-ease. They must be approached carefully because they are quite sensitive and are often concerned that others may do them harm. Because many of these patients fear that others may take advantage of them, they may try to keep their physical discomfort to themselves. Their isolation may also stem from a loss of self-esteem consequent to persistent illness. Items on the Inhibited scale include “I’ve felt all alone for a very long time now” and “I guess I’ve always been a fearful and inhibited person.”

Dejected (Scale 2B)
High scorers on Scale 2B (Dejected) are inclined to be persistently and characteristi- cally disheartened, unable to experience the pleasures or joys of life. Notably glum and pessimistic, they are easily disposed to give up trying to work through their emotional or physical problems. Typical items endorsed by high scorers include “I spend much of my time brooding about things” and “My life has always gone from bad to worse.”

Cooperative (Scale 3)
High scorers on the Cooperative scale tend to be eager to attach themselves to a supportive healthcare professional and will follow medical advice closely. However, these patients usually do not take the initiative to seek treatment and will need to be told ex- actly what to do. They may also be inclined to overlook or deny the existence of real problems. These patients may become quite dependent on their caretakers and may resist suggestions that call for routine efforts on their part. On the other hand, they are pleasant, overtly cooperative, and accommodating. Among their most frequently endorsed items are “I almost always put other people’s needs above my own” and “I seem to need a lot of advice in order to get things done.”

Sociable (Scale 4)
High scorers on Scale 4 (Sociable) tend to be outgoing, talkative, and charming. How- ever, they may be changeable in their likes and dislikes. They are usually very coopera- tive when following a treatment plan, but this may be short-lived. They are concerned with appearing nice and attractive, but they may be disinclined to face their problems. Nevertheless, these patients are largely easy to treat and often prove to be quite sturdy and resilient. Items endorsed by these patients include “I seem to fit in right away with any group of people I meet” and “I think I’m a very sociable and outgoing person.”

Confident (Scale 5)
High scorers on Scale 5 (Confident) are self-assured and confident. However, they are easily upset by physical ailments and will be motivated to follow treatment regimens that they believe will ensure their well-being. They may expect to be given special treat- ment by healthcare personnel and will tend to take advantage of opportunities that may improve their condition. It is important to them that they be treated in a courteous and professional manner. Typical items on this scale include “I have a lot of confidence in myself” and “Everything I try comes easily to me.”
Nonconforming (Scale 6A)
High scorers on Scale 6A (Nonconforming) tend to be somewhat unconventional if not arbitrary and occasionally inconsiderate in their manner. They are somewhat skeptical about the motives of others, and they tend to act insensitively and impulsively at times. Typical items on this scale include “It’s all right to bend the law as long as you don’t break it” and “Too many rules get in the way of people doing what they want to do.”

Forceful (Scale 6B)
High scorers on Scale 6B (Forceful) tend to be rather domineering and tough-minded. Given their tendency to be distrustful, they may not follow treatment regimens well. Items endorsed frequently by forceful individuals include “I can get nasty with people who deserve it” and “In this world you either push or get shoved.”

Respectful (Scale 7)
High scorers on Scale 7 (Respectful) are likely to be responsible, conforming, and cooperative. They keep their feelings to themselves and try to appear controlled, diligent, and serious-minded. They do not like to be seen in the patient role because it signifies weakness and inefficiency to them. Nevertheless, they are usually compliant. Typical items endorsed on this scale include “I like to follow instructions and do what others expect of me” and “It is always best to follow the rules that those in authority have made.”

Oppositional (Scale 8A)
High scorers on Scale 8A (Oppositional) are very different from individuals who score high on Scale 7 (Respectful). They are often unpredictable and difficult. They may be erratic in following a treatment plan—overmedicating or undermedicating without consulting their attending physician or nurse. They often seem displeased and dissatisfied with their physical and psychological state. They often have mood changes for no obvious reason. Typical items endorsed include “When people are bossy, I usually do the opposite of what they want” and “I often resent doing things that others expect of me.”

Denigrated (Scale 8B)
High scorers on Scale 8B (Denigrated) habitually focus on the most troublesome aspects of their lives, behaving as if they deserve to suffer. They may feel that they deserve the infirmities and ailments they experience, and they may actively and repetitively recall past troubles and afflictions. Typical items on this scale are “I deserve many of the misfortunes I’ve suffered” and “I am mistreated most by close friends and relatives.”

Stress Moderators

Illness Apprehension vs. Illness Acceptance (Scale A)
The Illness Apprehension scale reflects patients’ focus on and awareness of changes in their bodies such as tension/relaxation and arousal/fatigue. This characteristic may on the one hand influence patients’ ability to monitor and report significant changes in sensations and symptoms (e.g., hyperglycemic states, subtle signs of ischemia) and on the other hand may cause them to attend to less important sensations in such a way that they either ruminate excessively about their physical state or overuse medical services. Among the items that assess excessive illness apprehension are “My body is constantly giving me worrisome signals” and “I get very anxious when I think about my medical problems.”

Functional Deficits vs. Functional Competence (Scale B)
Anatomic adversities (injuries, surgery), the effects of disease (muscle or joint deteriora-
tion), and the infirmities of aging may increasingly limit a patient’s functional capacity. The Functional Deficits scale assesses the degree to which patients perceive that they are unable to carry out the vocational and avocational activities, roles, and responsibilities of daily life. Like a quality-of-life indicator, this scale focuses specifically on a patient’s sense of loss of independence and freedom to engage in pleasurable, meaningful, and necessary activities. Those who evidence problematic deficits are likely to endorse items such as “I can’t move around and do things as well as I could in the past” and “My medical condition has made daily tasks much more difficult.”

Pain Sensitivity vs. Pain Tolerance (Scale C)

Pain is undoubtedly a very distressing symptom for a significant number of medical patients. It is a primary clinical component for patients with chronic or repetitive backaches or headaches, cancer, and joint and arthritic diseases. It is well known that pain colors a patient’s overall outlook and management, as is evident in the increasing number of pain clinics and rehabilitation programs in the country. The Pain Sensitivity scale addresses the tendency to be overly sensitized and reactive to mild to moderate pain. It assesses the degree to which pain is likely to dominate the clinical picture and potentially affect adjustment and recovery following treatment. Items that identify pain-sensitive patients include “Physical pain is a big part of my life” and “My pain is on my mind constantly.”

Social Isolation vs. Social Support (Scale D)

Support from family and friends appears to be a significant moderator of the impact of life stressors. The Social Isolation scale assesses patients’ perceptions of the social support in their lives. High scorers on Scale D are more prone to suffer physical and psychological ailments than low scorers. Poor adjustment to hospitalization is also common. Those who feel isolated are likely to respond True to items like the following: “Most people wouldn’t care much if I were sick” and “There’s little emotional support within my family.”

Future Pessimism vs. Future Optimism (Scale E)

The Future Pessimism scale is designed to assess patients’ outlook toward their future health status. Based on the large body of research on optimism and learned helplessness, this patient characteristic was hypothesized to influence a number of medical outcomes including adherence to and confidence in medical regimens, emotional reactions to diagnostic test results, and possibly the actual physical course of disease. A high score on this scale may reflect a patient’s response to his/her current medical problems rather than a lifelong tendency to be pessimistic (as assessed by the Depression and Depressed scales). Patients with high scores on the Future Pessimism scale probably do not anticipate a productive life. They often consider their medical state serious and potentially life-threatening. Those scoring at the pessimistic pole are likely to endorse items such as “Life will never be the same again for me” and “My future looks like it will be full of problems and pain.”

Spiritual Absence vs. Spiritual Faith (Scale F)

Belief in spiritual sources of protection and care, usually associated with strong religious faith, church attendance, or belief in a higher power, appears to be associated with enhanced survival in patients with serious medical illness. The Spiritual Absence scale assesses the degree to which patients lack re-
igious or spiritual resources for dealing with the stressors, fears, and uncertainties of their medical condition. Those lacking in spiritual support are likely to endorse items such as “I am not a very spiritual person” and “I have no deep religious beliefs.”

**Treatment Prognostics**

**Interventional Fragility vs. Interventional Resilience (Scale G)**
A small proportion of patients exhibit considerable fear of medical procedures and instruments, which they associate with pain and illness. The Interventional Fragility scale predicts whether patients will be able to adjust emotionally to the demands of physically and psychologically stressful medical protocols and also forecasts the route of decompensation that they are likely to present if they become overwhelmed by these stressors. Typical items on the Interventional Fragility scale include “Medical instruments really frighten me” and “I’ve had nightmares about medical procedures I may have to endure.”

**Medication Abuse vs. Medication Conscientiousness (Scale H)**
The Medication Abuse scale predicts the likelihood that patients will have problems with or will misuse prescribed medication. This might take the form of changing dosages, combining medications inappropriately, or using outdated prescriptions. These behaviors can be dangerous and should be identified at the earliest point in the treatment process. Items that identify problematic inclinations include “Sometimes I can’t remember what medications to take or when to take them” and “If I don’t get relief from medicine, I may increase the dosage on my own.”

**Information Discomfort vs. Information Receptivity (Scale I)**
The Information Discomfort scale assesses patients’ lack of receptivity to specific details about diagnostic, prognostic, and treatment procedures and outcomes. Some patients want to know as much as they can about their medical condition and prognosis. Others do not, sometimes to the point of not wanting to know the name of their disorder much less its character and prognosis. Others do not, sometimes to the point of not wanting to know the name of their disorder (e.g., cancer) much less its character and prognosis. The first group can be identified by a True response to an item such as “I’d rather not know the details of an illness I might have” and a False response to an item such as “I want my doctor to review with me the results of all my medical tests.”

**Utilization Excess vs. Appropriate Utilization (Scale J)**
In this era of managed care, there is increasing sensitivity to the problem of patients who demand more services than are called for. Although special medical services are often appropriate and fully justified, there are some patients who are excessively demanding, insisting on attention from specialists, annoying staff and taking up their time unjustifiably. The Utilization Excess scale assesses the likelihood that patients will use medical services more than the average patient with a similar medical condition. Items on this scale include “I feel particularly resentful when I am refused medical benefits I know I am entitled to” and “I feel entitled to all my sick days each year.”

**Problematic Compliance vs. Optimal Compliance (Scale K)**
A major problem for healthcare professionals is patients who either inadvertently or intentionally resist following medical rec-
Overview of the MBMD (Millon Behavioral Medicine Diagnostic)

Scale K assesses compliance problems beyond what is identified by Scale H (Medication Abuse). Scale K identifies the disinclination to follow home-care advice, to adhere to nutritional instructions, and to keep and be on time for appointments. Patients with high scores on the Problematic Compliance scale exhibit a seeming contempt for healthcare personnel. Noncompliant patients are likely to respond False to items such as “I make sure that I’m on time for all my doctor’s appointments” and “I would change my lifestyle on my doctor’s advice.”

Management Guides

Adjustment Difficulties (Scale L)
The Adjustment Difficulties scale assesses the risk of treatment complications due to the patient’s coping style, the current psychological issues operating in the patient’s life, his/her available resources for managing stress, and his/her risk of engaging in unhealthy behavior. In general, this scale assesses problems that may call for the services of physicians, nurses, health psychologists, and other counseling and behavior medicine specialists. Items endorsed by high scorers on this scale include “I think things will get much worse in the coming months” and “Very few people appreciate just how hard my life really is.”

Psych Referral (Scale M)
The Psych Referral scale indicates whether the patient might benefit from psychosocial intervention and the likelihood that he/she would respond well to a specific type and form of intervention. There are certain classes of patients (e.g., those who score high on the Psychiatric Indications scales) who are likely to benefit from the therapeutic intervention of psychologists or psychiatrists. Typical items on this scale include “The pain I’m in has made my life feel very hopeless” and “I start feeling crazy when medical problems turn out badly for me.”