NATIONAL HEALTH DATA SYSTEM MULTIDISCIPLINARY DIAGNOSTIC & REFERRAL CENTER HEALTHCARE REFORM PROJECT PROPOSAL

More and better information is needed for adequate health care reform. Health care costs have not been controlled and optimum treatment quality has not been assured due to the lack of adequate scientific data necessary for sound, empirically-based treatment decisions. Consequently, government agencies, insurers, managed health care companies, utilization reviewers and actuaries are forced to determine health care payments, benefits and premiums *without* sufficient valid information about the cost-effectiveness, quality or value of many health care treatments. All attempts at health care reform can be no more than stopgap measures until the necessary empirical data is acquired.

Stephen E. Beller, Ph.D., a practicing clinical psychologist with a specialty in computer programming and application, has been actively involved in developing a practical method to fill this information void. After twelve years of diligence, Dr. Beller and his associates have developed a unique plan for a sound, equitable health care system. While originally designed for use in the mental health care field, this plan can be applied to all health care fields and offers a sensible and effective strategy for national health care reform.

Dr. Beller's plan consists of health cost control and quality assurance that is a radical departure from other health care reform proposals being considered by the Federal Government. Unlike national health care cost-cutting initiatives that alienate health care providers by over-reliance on accountant-driven methods in lieu of scientifically-derived systems, Dr. Beller's strategies are built on a structure of cooperation and collaboration and stand on a strong empirical foundation. In addition, Dr. Beller offers the first proposal with an effective, rational method for managing health care costs AND quality.

The attached plan is being offered as a "blueprint" of lasting health care reform.   It details the establishment of the National Health Data System (NHDS) and Multidisciplinary Diagnostic and Referral Centers (MDRC's). The proposed NHDS-MDRC project includes: (a) *an electronic health information network* of health care providers, payers, patients, researchers and evaluation centers, (b) *standardized assessment instruments* for the acquisition of empirical data from all biomedical and mental health care fields, and (c) *a central health data storehouse and processing facility* that will analyze, accumulate and apply such data to maximize the quality and control the cost of health care.

This plan presents a long-term remedy for the health care crisis. It should also be noted that, in addition to health care reform, the proposed NHDS-MDRC project introduces potential solutions to other serious social problems.
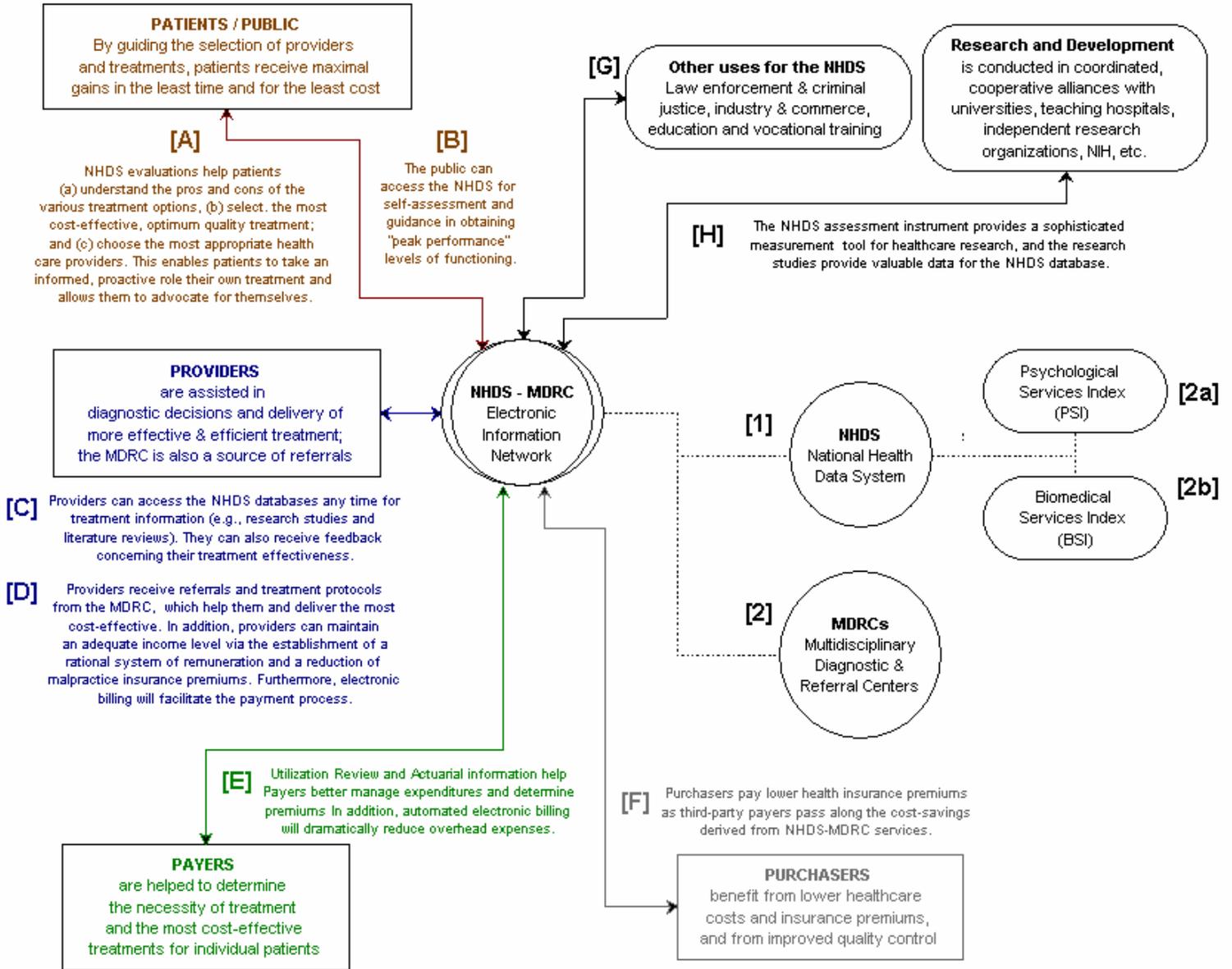
Brief Overview

The NHDS-MDRC proposal presents a practical health care reform plan based on patent-pending technologies and well-developed strategies. It involves the use of standardized assessment instruments, evaluation centers, and an electronic information network to acquire, analyze, accumulate, and apply health care treatment and outcome data received from health care providers, patients and researchers. The application of this data will help:

- Delineate the nature and severity of each patient's illness, dysfunction, or disorder

- Determine the patient's particular health care needs

- Ensure that patients are referred to providers who deliver cost-effective and optimum quality treatment

- Establish a rational, equitable payment system.

Note, the letters and numbers on the diagram below refer to the corresponding sections of the pages the follow.

National Health Data System (NHDS) - Multidisciplinary Diagnostic & Referral Center (MDRC) Schema

PATIENTS / PUBLIC
By guiding the selection of providers and treatments, patients receive maximal gains in the least time and for the least cost

[A]
NHDS evaluations help patients (a) understand the pros and cons of the various treatment options, (b) select. the most cost-effective, optimum quality treatment; and (c) choose the most appropriate health care providers. This enables patients to take an informed, proactive role their own treatment and allows them to advocate for themselves.

[B]
The public can access the NHDS for self-assessment and guidance in obtaining "peak performance" levels of functioning.

[G]
Other uses for the NHDS
Law enforcement & criminal justice, industry & commerce, education and vocational training

Research and Development
is conducted in coordinated, cooperative alliances with universities, teaching hospitals, independent research organizations, NIH, etc.

[H] The NHDS assessment instrument provides a sophisticated measurement tool for healthcare research, and the research studies provide valuable data for the NHDS database.

PROVIDERS
are assisted in diagnostic decisions and delivery of more effective & efficient treatment; the MDRC is also a source of referrals

NHDS - MDRC
Electronic Information Network

[1]
NHDS
National Health Data System

Psychological Services Index (PSI) **[2a]**

Biomedical Services Index (BSI) **[2b]**

[C] Providers can access the NHDS databases any time for treatment information (e.g., research studies and literature reviews). They can also receive feedback concerning their treatment effectiveness.

[D] Providers receive referrals and treatment protocols from the MDRC, which help them and deliver the most cost-effective. In addition, providers can maintain an adequate income level via the establishment of a rational system of remuneration and a reduction of malpractice insurance premiums. Furthermore, electronic billing will facilitate the payment process.

[2] **MDRCs**
Multidisciplinary Diagnostic & Referral Centers

[E] Utilization Review and Actuarial information help Payers better manage expenditures and determine premiums In addition, automated electronic billing will dramatically reduce overhead expenses.

[F] Purchasers pay lower health insurance premiums as third-party payers pass along the cost-savings derived from NHDS-MDRC services.

PAYERS
are helped to determine the necessity of treatment and the most cost-effective treatments for individual patients

PURCHASERS
benefit from lower healthcare costs and insurance premiums, and from improved quality control

Operational Components of the NHDS-MDRC Project

The proposed NHDS-MDRC project includes the following operational components:

[1] The **National Health Data System (NHDS)** center is based on an efficient, high-security, electronic information network, consistent with the government's proposed "electronic superhighway," would facilitate communication, knowledge dissemination and collaboration among: (a) health care providers (doctors, nurses, therapists, counselors, hospitals, clinics, etc.), (b) health care purchasers (employers, the self-insured, the government, etc.), (c) third-party payers (including traditional indemnity insurers and managed health care companies), (d) patients / the public, (e) universities and researchers, (f) the courts, law enforcement and legal profession, (g) industries and commerce, and (h) educational and vocational training institutions.

The NHDS will utilize powerful computers driven by a sophisticated software system to analyze, store and apply a wealth of health data. A prototype of this U.S. patent pending software system has been developed by Dr. Beller and his associates. These technologies will enable the NHDS to establish a continually increasing databases of: (a) physical/biomedical and mental/psychological health data on patients receiving all forms of health care treatment, (b) treatment outcome data, and (c) cost-effective treatment approaches and techniques and other health care research findings. This health data will be received from primary care physicians, health care researchers, and from MDRC's (discussed later). Once analyzed at the NHDS center, the information will be applied to control health care costs and assure optimum treatment quality. The NHDS will be comprised of two basic subsystems: the Psychological Services Index system and the Biomedical Services Index.

[1a] The **Psychological Services Index (PSI) system** is a major component of the NHDS. The PSI is a U.S. patent pending information processing system that sets a rational structure and provides a unique technology by which health care professionals can: (a) perform guided, standardized diagnostic and outcomes evaluations, (b) empirically demonstrate how mental health care is beneficial to people's quality of life, biomedical health, and overall well-being; (c) optimize the efficiency and effectiveness of mental health treatments; (d) develop a rational, equitable treatment delivery system and payment policy; (e) maximize the validity and utility of applied psychological and psycho-biological research; (f) facilitate the dissemination of information relevant to mental health care; and (g) provide knowledge and services of value in other fields such as biomedicine, law, criminal justice and education.

PSI's evolution began in 1980 with the work of Dr. Beller. It has been designed to be a major psychological data storehouse and the hub of an information network linking researchers, theoreticians, educators, practitioners, and the payers and consumers of mental health care. PSI is capable of setting industry standards in the acquisition, accumulation, analysis, and application of empirical psychological data. It presently being refined and field tested to maximize its power, efficiency, and functional utility.

Being flexible in design and function, PSI includes the assessment of many biomedical variables in addition to psychological variables. This feature is critical for the evaluation of "mind-body" health problems in which people's psychological state (i.e., mental health) affects their physical state (i.e., biomedical health), and visa versa. A complete range of biomedical problems can be evaluated by expanding and modifying aspects of the PSI system to establish the Biomedical Services Index (BMI).

[1b] The **Biomedical Services Index (BMI) system** is the other main component of the NHDS. The BMI will help diagnose and treat non-psychiatric medical problems. It will be integrated with the PSI system to generate a complete mind and body diagnostic evaluation. The BMI, like the PSI, will help health care professionals: (a) perform guided, standardized diagnostic evaluations, (b) optimize the efficiency and effectiveness of health care treatments; and (c) develop a rational, equitable treatment delivery system and payment policy.

[2] Multidisciplinary Diagnostic and Referral Centers (MDRCs) offer a realistic means by which patients can receive complete, efficient, cost-effective evaluations and be referred to appropriate health care providers. MDRC facilities can be:

- Located within HMO facilities;
- Independently owned and operated by the NHDS;
- Franchised by the NHDS to groups of health care providers;
- Established in existing hospitals.

At each MDRC, a multidisciplinary team of specially trained health care specialists, from all major health care fields, will perform an empirically-based, standardized diagnostic evaluation called a NHDS assessment (the NHDS will be described in detail in section "B"). NHDS assessments will determine patients' physiological/biomedical, mental/psychological, and biopsychological/body-mind functioning. These assessments will be facilitated by the use of sophisticated computer programs that individualize, streamline, and guide the evaluation process in accordance with the patient's presenting problems (symptoms).

Patients can also be referred to a MDRC for a diagnostic evaluation by their primary care physician. Or patients can go directly to a MDRC for their diagnostic assessment This will occur if the MDRC is located within an HMO to which the patient belongs, if the patient's insurance company or employer requests an evaluation at a MDRC, or if the patient self-refers.

Patients with relatively minor medical problem may not require in-depth NHDS evaluations at MDRC's. Thus, various levels of initial and follow-up assessments will be administered based on the severity and complexity of a patient's symptomotology. Depending on the level of evaluation and health care setting, these assessments can range from brief self-administration in the office of the patient's primary physician for a low-level evaluation of minor medical problems to an in-depth assessment performed by a multidisciplinary team of evaluation specialists at a MDRC. The cost of the assessments will be kept low by streamlining the evaluation process and minimizing overhead costs.

Follow-up assessments, which will be routinely done by the health care providers and which will generate treatment outcome data, will be performed at a MDRC for patients who fail to progress within empirically-derived, predetermined time and cost parameters.

Upon completion of the NHDS evaluation, the MDRC will electronically transmit the patient's data, under the most high-security conditions, to the NHDS processing center . The data will be rapidly processed at the NHDS center, which will then transmit back to the MDRC: (a) a *detailed report of the patient's specific treatment requirements, (b) individualized treatment guidelines/protocols,* and (c) a *list of referral recommendations to appropriate participating health care providers* (individual practitioners, hospitals, programs, and other facilities). Each patient's health data is kept strictly confidential; the patient must explicitly identify who gets to see what information.

Healthcare-Related Benefits

Benefits to Patients and the Public

[A] Patients included in the NHDS database receive the following benefits:

Self-Advocacy and Informed Decision-Making: Patients will be able to obtain information about their own health condition (and that of family members) and learn about the effectiveness and risks of different treatment alternatives in language they can understand. The probability of positive vs. negative treatment effects will be clearly indicated. This will enable patients comprehend the health care research and technical literature and assist them in selecting the best treatments and health care providers. Greater self-advocacy and informed decision-making will thereby be promoted.

Life-Long Medical Record: By evaluating a patient's health condition whenever the person seeks biomedical and/or mental health assistance, a longitudinal (long-term) record is obtained of the person's health care needs, responses to different treatments, and changes in the person's condition over time. This information can be important for diagnosing and treating the future problems.

Medication Monitoring: By making information available to doctors and pharmacists concerning the person's present medication regime and history of medication effects, there is less chance of drug-related problems (e.g., prescription of ineffective medications, dangerous drug interactions, and prescription of medications which cause the patient harmful side effects and allergic reactions).

[B] Peak performance: The public may be allowed to access the NHDS to perform a self-assessment of their psychological and psycho-biomedical condition in order to maximize their level of functioning. This peak-performance assessment and training program would generate a comparison of the individual's mental and physiological factors to those of people who are functioning at peak-performance levels. Areas of psychological, emotional, interpersonal, occupational and physical vulnerability, deficiency or dysfunction would be identified and cost-effective methods for improving one's psycho-physical well-being and quality of life would be presented.

Benefits to Health Care Providers

[C] Providers can retrieve information from the NHDS database at any time to assist with diagnostic and treatment decisions. In addition, they can receive a confidential evaluation of their own relative treatment effectiveness with different types of patients and recommendations for improving treatment outcomes.

[D] Providers can also receive the benefits of a reasonable remuneration rate, a steady referral flow, improved treatment efficiency and effectiveness, reduced malpractice premiums, and automated record-keeping and billing.

Reasonable Remuneration: Providers can be paid a reasonable, equitable amount for services rendered by logically determining a remuneration rate based on NHDS data concerning the:

- degree of responsibility in establishing and maintaining patient welfare (e.g., reimburse at higher rates for treatment of patients who require greater provider effort or technical skills);

- likelihood of positive treatment outcome (e.g., reimburse more for treatment of patients with greater likelihood of symptom reduction, health improvement, quality of life enhancement, etc.); and

- areas of provider expertise and effectiveness (e.g., reimburse the most to providers who offer the most cost-effective treatment options to specific patient types).

Steady Referral Flow: Treatment providers on panels affiliated with the NHDS-MDRC project will receive referrals from the MDRC's based on the analysis of patient data. In addition, diagnostic assessment referrals are made to providers functioning as MDRC evaluators.

Lower Malpractice Insurance Premiums: The NHDS can help reduce the number of successful health care related lawsuits and lower the cost of malpractice insurance. Since all NHDS treatment decisions will be based upon the analysis of a wealth of health data and upon a consensus of acknowledged experts in each health care field, it will have a high degree of validity and will be very difficult to dispute. As such, the NHDS is likely to become the industry-standard by which appropriate treatment alternatives are determined. Adherence to the NHDS methods, therefore, is likely to strengthen a provider's legal defense in the event of litigation pertaining to treatment planning and delivery and would eventually lower malpractice insurance premiums.

Automated Record-Keeping & Billing: Paperwork time can be reduced via an automated system of record-keeping and claims submission.

Benefits to Third-Party Payers

[E] The NHDS-MDRC system will help third-party payers better manage health care expenditures and thus improve their bottom line. Costs will be managed and profits maximized in the following ways:

Patients could be matched to the most cost-effective treatments for their specific health needs. This will likely result in lower health care expenditures by reducing unnecessary and ineffective treatment.

The NHDS could enable the **use of illness/dysfunction-severity-scores** to operationally define the nature and severity of a patient's health problems. These scores will assist in determining of treatment necessity by comparing the severity of a patient's area(s) of illness/dysfunction to the health problems of all other individual's in the NHDS database. Objective treatment goals can be established by specifying statistically predetermined illness/dysfunction-severity-score cutoff levels. Areas of illness/dysfunction with severity scores above the cutoff level would be defined as significant and become the focus of treatment, while those below the cutoff point would be considered non-significant. An objective of treatment would be to reduce a patient's illness/dysfunction severity scores to below the cutoff level. The use of these scores will also improve actuarial analyses. Note that differential goal-level thresholds are likely to be employed. For example, individual variables or aggregated groups of variables which indicate life-threatening pathologies (e.g., suicide or homicide) can have lower thresholds of significance than variables indicating problems such as sleeping or somatization disorders.

The NHDS may be used to **rank-order the spectrum of health problems in terms of their severity** (i.e., how much they impair a person's ability to function) **and treatability** (i.e., the likelihood that they can be adequately treated), similar to the Oregon system. This information can be used to determine the cost of treating various conditions and the likely outcomes of such treatment.

The NHDS will **measure progress toward treatment goals/objectives.** This information can help identify patients whose treatment is progressing significantly slower than expected based on valid treatment outcomes data analyses. The treatment requirements of these patients could then be re-assessed. The NHDS can thereby facilitate the utilization review process by eliminating the unnecessary in-depth examination of claims that are progressing within empirically determined guidelines.

The NHDS will **make the utilization review process more efficient** by having high-speed computers rapidly process each claim and immediately supply utilization reviewers with all the information they need in a precise and concise manner. This saves utilization review time, reduces the likelihood of errors or disputes, and lowers administrative overhead.

Cost-savings will likely accrue from a **lower risk of successful lawsuits**. The NHDS-based utilization review decisions will be based on scientifically derived industry-standard data analyses. Payers are

thereby justified for their utilization decisions have a reduced risk of successful lawsuits alleging erroneous rejection or limitation of mental health care claims.

By handle claims and payments electronically, the NHDS-MDRC system facilitates payment and **reduces claims paperwork costs**.

Payers affiliated with the NHDS-MDRC system will be afforded an opportunity to **promote themselves as users of a revolutionary technology that helps control the costs of health care, thereby keeping down consumer premiums, while truly maintaining high quality standards**. They can compare the NHDS-MDRC system of utilization review and treatment planning to the unsound, arbitrary methods used by other payers. This will give them a distinct market advantage when vying for customers.

The NHDS will **assess the interrelationship between psychological and biomedical factors**. This will help determine if and when mental health care reduces the costs of treating certain biomedical symptoms and when biomedical intervention is indicated for treatment of mental symptoms. The NHDS can, therefore, help non-psychiatric physicians determine when to refer to mental health care specialists and help mental health care providers determine if biomedical problems are contributing to a patient's mental disorder. The relationship between psychological and biomedical factors is supported by numerous "mind-body" research studies suggesting that mental health care can reduce overall health care costs by:

- increasing a patients' responsiveness to biomedical treatment and shortening recovery time;

- helping to prevent or reverse certain biomedical illnesses (such as coronary heart disease and cancer), via changes in psychological state (such as resentful anger and stress-proneness);

- treating psychosomatic illnesses; and

- modifying maladaptive behaviors that have obvious deleterious health effects (such as substance and alcohol abuse, smoking, unsafe sex, recklessness, and abusive behavior toward others).

Benefits to Purchasers

[F] Purchasers of health care insurance (i.e., employers, the self-insured, the government) benefit from:

Lower cost and better quality of health care services will result as the NHDS-MDRC system: (a) helps improve provider cost-efficiency by making better diagnostic decisions and patient to treatment matches and (b) assists providers in delivering optimum quality treatment. In addition, the lower cost of malpractice insurance can be passed along to the consumer.

Lower cost of health insurance premiums are likely as the NHDS-MDRC system helps third-party payers improve the accuracy and validity of their utilization review and actuarial capabilities.

[G] Purchasers may receive maximum value for their health care dollar by **contracting for health care services directly from NHDS-MDRC provider groups on a capitation basis**. This can reduce the cost of the third-party payer "go-between" role.

Benefits Beyond Healthcare Settings

[G] The NHDS database can be applied to the legal system, industry, and education.

Criminal Justice System and Family Court

The psychological data stored in the NHDS database could be useful within the legal system. It could help establish criminal psychological profiles and may be able to provide psychological and psychiatric expert witness testimony that is critical in determining:

- the degree of "mental injuries" in worker's compensation and abuse/neglect cases;

- "parental fitness" in guardianship and child custody cases;

- the need for mental health care treatment, rehabilitation or commitment (hospitalization), and the most appropriate treatment/rehabilitation options;

- the degree of successful rehabilitation and likelihood of recidivism when deciding upon the parole or release of prisoners;

- a person's competency to stand trial, confess, plead guilty, and testify, and the legitimacy of a person's insanity plea by indicating the degree of impairment of his or her rational reasoning processes;

- "imminent" danger (i.e., making violence predictions) by indicating the statistical probability that someone will exhibit a dangerous behavior, the severity of the behavior, and the estimated time of its occurrence;

- a person's mental state at the time of an offense by identifying the underlying (psychological) reasons for someone's illegal actions via an assessment of the person's thought processes, emotional states, behavioral tendencies and environmental influences that are associated with the his/her misconduct.

Promoting Mental Health in Non-Clinical Settings

Workplace management: Companies may utilize the NHDS to help determine the psychological well-being of employees so workplace difficulties can be remedied before serious problems emerge. For example, the NHDS could help develop programs to identify and remediate stress-related disorders of police, postal employees, teachers, health care professionals, etc.

Early identification and intervention: It may be possible to evaluate children in elementary school (similar to present intelligence testing) to identify those who evidence symptoms of psychological disturbance or signs of future disorder. In this way, preventative mental health can be given to children before serious disorders arise that are resistant to treatment (such as antisocial and substance abuse disorders).

Research and Development

[H] Health care researchers and program developers in universities, teaching hospitals, independent research facilities, the National Institute of Health, etc. can use the NHDS databases and standardized evaluation technologies to maximize the validity and utility of their research investigations. In return, the researchers will provide valuable information that will be incorporated into the NHDS databases.

Technical Aspects of the NHDS-MDRC project

The NHDS center will accept electronically transmitted data input, analyze and store it, then transmit output data to the end user (i.e., the MDRC, patient, provider, etc.). Upon receiving a patient's health data, software programs will assess its integrity and validity. Other software programs will then compare the patient's health data to all other individual's in the NHDS database. The patient's area(s) of illness/dysfunction and treatment needs will then be determined. Extensive information banks containing treatment outcome data and research findings, information regarding treatment approaches, methods, medications and technologies, and information concerning provider expertise will be used to produce the following valuable lists and reports:

Provider Referral Lists indicate the names, phone numbers, addresses and qualifications of participating providers who are deemed most likely to deliver the required services in a cost-effective and optimum quality manner. Referrals to these providers will be based on an objective analysis of criteria including

their areas of technical training and experties, the treatment methods they employ, and their location. This rational provider to patient matching referral process will enable providers to treat the kinds of

patients with whom they have the greatest likelihood of success. Since providers will not have to serve the kinds of patients unlikely to respond to their treatment methods, their overall levels of efficiency and efficacy will be maximized.

Utilization Review (UR) reports provide utilization review personnel with the valid information needed to determine the optimum quality and most cost-effective health treatment alternatives for each patient. Precise, objective treatment goals, duration-of-treatment estimates, and suggested treatment methods are indicated in each UR report. This information could allow patients to be matched with providers whose areas of technical training and proven expertise enable them to render the most cost-effective treatment. The criteria used to produce UR reports will be created with the cooperation of health care payers, purchasers, providers and researchers.

Follow-up UR reports regularly assess treatment progress. The information provided by these reports gives the utilization reviewer, patient, and provider an objective view of the treatment process.

Actuarial reports help determine the probable cost of successfully treating patients with specific health problems.

Individual Patient Profile (IPP) reports present the provider with critical patient information. Each IPP itemizes the fundamental aspects of the patient's physiological and psychological makeup and delineates the patient's condition in a practical, objective, and logically organized manner. The IPP report describes important demographic information and chronicles the patient's history of medical and nonmedical health-related problems and treatment. In addition, by comparing the patient's profile to the measurements of all other individuals in the NHDS database, the IPP report enumerates the *relative degree* (i.e., severity) of the patient's:

- biomedical condition (including illnesses, handicaps and disorders);
- emotional discomfort and dysfunction;
- distorted or dysfunctional thinking and perceptions,
- maladaptive and dangerous behaviors;
- current occupational, educational, legal, and social/interpersonal stressors.

The treatment provider also receives an **Individualized Treatment Plan (ITP)** report for each patient. The ITP report helps the provider deliver the most cost-effective and optimum quality care. It suggests specific, yet flexible treatment guidelines (protocols) that are consistent with the patient's needs. All treatment recommendations included in the ITP report are supported by expert consensus, technical references and research findings.

All reports will be produced at very low cost by maintaining minimal overhead expense.