

Introduction

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Relationships between social conditions-- particularly socioeconomic conditions-- health and disease have been documented since the early 19th century. Several issues are now at the forefront in considering these relationships: (1) the mechanisms that explain the relationships and that ultimately provide methods for preventing disease onset and improving levels of health; (2) the identification of important trends in antecedent conditions; and (3) the emergence of new diseases and their relationships to social conditions and explanatory mechanisms (Anderson & Armistead, 1995).

Historically, sociologists and epidemiologists have focused on events and experiences associated with substantial adaptive demands and ignored the psychological and biological paths through which these influences move. Psychologists have studied cognitive reframing or reappraisal of stressful environmental demands, as well as emotional or behavioral responses in disorder risk, while biological stress researchers focused on the links between environmental demands and physiological responses, and between physiological responses and disorder risk. The result has been a disciplinary compartmentalization of the scientific knowledge base (Cohen, Kessler & Gordon, 1995).

The literature tells us that most of the work on stressful environmental demands now takes account of psychological paths to disorder, but that physical paths are just beginning to be incorporated. Moreover, much of the research on social conditions that increase the risk of experiencing a mental disorder concentrates on a single risk factor or a single disorder (Cohen, Kessler & Gordon). These parallel approaches have improved our understanding of the damage that can accompany social risk factors and have led to preventive interventions that are being tested in a burgeoning number of small-scale, randomized control trials and a growing number of large-scale community trials. The interventions already have been found to significantly reduce the experience and impact of psychosocial risk factors among participants (Price et al., 1988; Mrazek & Haggerty, 1994). The questions that remain to be answered are whether the range of risk factors addressed is complete, whether the impact of existing interventions is

broader than currently conceptualized, whether the intervention technology can be successfully transferred into policy, practice or advocacy, how to best choose the population groups to whom it is offered, and what data and standards are available to inform and evaluate such a research development effort.

The papers in this collection examine recent research on relationships among socioeconomic conditions, mental health, and mental disorder. They focus either on the “social stress process” as a mechanism in these relationships-- exposure to stress and the use of personal and social resources in coping with stress-- or on the influence of the larger context(s) on the way this mechanism works-- the social conditions of people’s lives and the settings in which they interact with others. Some papers report on progress in formulating, testing, and applying preventive interventions both in clinical and educational programs with individuals and through ecological programs, social movements, and social policy resulting from this progress. Some restrict themselves to clarifying the dimensions that link a condition to different mechanisms and different effects, as in the section on gender, ethnic, and racial factors, and the sections on networks and neighborhoods. Other papers focus on clarifying the mediating role of individual coping behavior as opposed to the *availability* of social and personal resources in the development of a disorder, including a debate on the importance of indirectly related, antecedent social conditions to both coping resources and the emergence of new disease outcomes-- as in the discussions of fundamental cause models. These clarifications make possible more precise formulation and testing of interventions. Other obstacles to translating basic knowledge into efficacious preventive strategies, and efficacious strategies into effective population and service interventions, are explored throughout.

Stress exposure takes on far more importance as a mediator in this collection than it has in its more narrow conceptualizations in past population studies of critical life events and mental disorders. Duration, cumulative effects, and contextually specific versions of decision latitude and demand-control qualities of the environment are strongly associated with disorder outcomes. In addition, studies in work settings have differentiated the path between high demand–low control and low decision-latitude environments and health outcomes. The first path is from short-term or

intermittent stress to active coping with a challenging demand and adaptive, rapid resolution of adrenal-medullar responses unrelated to later health problems or subjective distress. The second path emerges when an individual has difficulty responding to demands and engages in passive coping such as avoidance over the long term. The small adrenal-cortical arousal response, which accompanies a challenging demand and returns quickly to baseline at the termination of the demand, becomes stronger, and the adrenal-medullar response is sustained, with resulting fear, anxiety, depression, suppression of immune functioning, and possibly diminished adaptive physiological responses. In other words, objectively measured biological markers have been linked to both the duration of specific kinds of stress exposure and multiple psychosocial and physical outcomes.¹

It is clear from the papers in this collection that inequalities continue to exist in the socioeconomic distribution of mental health and mental disorders in community populations. These inequalities are very much related to stress-linked and resource-linked socioeconomic conditions, with multiple outcomes involving both physical and mental disorders, and the disabilities they engender, documented. Further, the pockets of the national population placed at risk by these conditions are increasing-- as is the radiation of risk to mates and children. The globalization of the economy has been implicated in both the macro-level and micro-level processes involved.

Whether socioeconomic conditions are fundamental causes that must be directly addressed to affect multiple, nonspecific disorder outcomes over the long term is a heated debate for which empirical tests are proposed. Another debate requiring

¹ Seeman, et al (1997) have since elucidated 10 biological components of “allostatic load” or long-term stress reactions of the body that can have negative outcomes, in particular for cardiovascular incidents, physical and cognitive functioning and mortality over a two and a half year period. The regulatory systems include: the hypothalamic-pituitary-adrenal (measured by overnight urinary cortisol secretion and serum dihydroepiandrosterone sulfate, a functional HPA axis antagonist); the cardiovascular (measured by systolic and diastolic blood pressure and by serum HDL and total cholesterol indicators of atherosclerosis); the metabolic (reflected in glucose metabolism measured by glycosylated hemoglobin and in glucocorticoid activity-related levels of metabolism and adipose tissue deposits, as measured by the waist-hip ratio); and the sympathetic nervous (as measured by overnight urinary norepinephrine and epinephrine secretion). Use of alternative criterion measures suggested that disease risks derive from relative difference rather than extreme level mediators. Considerable work remains to be done with mental disorder outcomes and types of allostatic load relative to environmental stressors, behavioral habits, developmental experiences, and genetics.

empirical resolution is how to best measure socioeconomic conditions linked to mental disorders-- in particular whether it is necessary to consider the growing disparities in income that are accompanying globalization of the economy. The related question of how to link the epidemiology and prevention of mental disorders to ongoing evaluations of policy trends and policy interventions takes on more urgency as national trends in “disconnectedness and economic bifurcation” are described and related to stress and adjustment reactions, anxiety, depression, substance abuse, conduct disorders, or other forms of distressing cognitive, emotional, behavioral, and biological dysfunction.

It is also clear that ethnicity, gender, and age are relevant to mental as well as physical health and disorders, to multiple as well as single outcomes. The predictive power of these ascribed status attributes can in large part be statistically explained by correlated socioeconomic factors, but they also have independent and interactive implications for individual stress loads, the personal and social resources that can be brought to bear, and the form and amount of manifest disease. On the whole, internalizing versus externalizing disorders are at issue; changing cultural norms regarding economic, family, and community behaviors are involved; and dramatic changes in demographic trends lend pressing importance to the next steps.

These demographic trends involve increasing numbers in racial-ethnic minorities and in families headed by separated, divorced, or never-married mothers. There is also an increase in women in the workforce (including women with children) and in families headed by women who are currently unmarried, working, and living in poverty. Discrimination, acculturation, acculturative stress, gender stratification of workplace and family, the intersect of work and family roles, re-creation of gender inequality in socialization, the proliferation of stress throughout the status set that can accompany mobilization to address these stressors, and ecological factors in stress exposure and adaptation over the life course are all discussed as mediators of one or another form of risk or protection, but culturally salient versions of these concepts are now beginning to get attention as well. Economic conceptualizations of the health effects of social context-- in terms of the expense of stress-linked disease outcomes and its long-term impact on earning capacity-- are prompting explorations of interventions ranging from

methods of altering individual asset trajectories to community development activities designed to reverse stress-linked degradation of human capital and its accumulation.

The results of these overviews guide us toward a timely research agenda that involves individuals--their resilience and its limits, but also the ecology of their lives, the processes that shape that ecology, and its readiness for change in the interest of improving individual health and functional abilities. Many prevention, early intervention, and rehabilitation programs have been tested. These programs usually involve context-specific interventions in stress exposure, coping skills, or their antecedent conditions, but they seldom link methods of reducing stressors embodied in various forms of chauvinism, and its manifestations in community life, to reductions in illness (Price et al., 1988; Mrazek & Haggerty, 1994).

Recently a workgroup of the National Institute of Mental Health's (NIMH) National Advisory Mental Health Council reviewed the current research portfolio and recommended major initiatives intended to strengthen the research base from which preventive interventions in general are emerging (NIMH, 1998b):

- Expand the definition of prevention research: (1) enlarge pre-prevention or risk-factor research to include etiologic research that encompasses basic biological, psychological, and socio-cultural factors as well as multiple interactive influences on behavior and its contexts; (2) extend preventive intervention and service-level research to include prevention of relapse, co-morbidity, disability, and consequences for others; and (3) emphasize the critical importance of integration across pre-intervention, preventive intervention, and preventive services research.
- Strengthen epidemiological foundations of prevention research.
- Stimulate pre-intervention and intervention studies of early childhood risks for adverse developmental outcomes.
- Expand research on depression and anxiety across the life span.
- Refine and advance the empirical basis for conduct disorder prevention research.
- Broaden disorders and populations targeted for prevention research.
- Encourage and support long-term follow-up in prevention
- Expand studies of comorbidity prevention.
- Develop a program of preventive services research, including prevention policy research.

In considering the implications of studies from local communities and special populations for a national research and development program on the prevention of mental disorders, however, it is helpful to keep in mind the national population to which the NIMH is responsible. It is also important to consider what is known nationally about the distribution of the disorders, their consequences, and their risk factors, as well as trends within the mental health service organizations and professions that conduct or stimulate rehabilitation, early intervention, and prevention services.

The National Epidemiological Framework

Many of the findings in the collection of readings that follow are supported by subsequently reported findings of the only national probability survey of major mental disorders, conducted among Americans 15 to 54 years of age between 1990 and 1992: the National Co-morbidity Survey (NCS).^{2,2} The NCS indicates that the reported experience of a major, epidemiologically measured mental disorder in the course of a year is common (31%)-- though little more so than cardiovascular disorders-- and in the course of a lifetime is very common (50%). Of the disorders measured over a 12-month period³ among 15- to 54-year-old Americans living in the community, various

² The principal source of data on the prevalence of psychiatric disorders in the prior decade was the Epidemiologic Catchment Area Study, in which more than 20,000 respondents were interviewed in a series of 5 community surveys around *DSM-III* "major" disorders (American Psychiatric Association, 1980). The two noncontiguous States and the territories were pragmatically excluded from the sampling universe for the National Comorbidity Survey, since the numbers were projected to be too small to affect national rates. The omission of the elderly, children, institutional populations, and group living arrangements (other than students in college dormitories) also limits its generalizability. Although national data are unavailable for the most rapidly growing age sector of our population—the elderly—*community* surveys suggest a relatively low prevalence (13%) for those over 64 years of age. A national survey that did not employ a structured psychiatric interview schedule estimates a prevalence rate for children and adolescents close to that of the adult population; some 22% of those in households have experienced mental health *problems* (Zill and Schoenborn, 1990), a rate fairly similar to that extrapolated from community epidemiological surveys utilizing a structured psychiatric interview and generating clusters that meet selected diagnostic criteria. (Bird et al, 1988; Costello et al, 1988) Studies currently underway will address these deficits in the new decade.

² Retrospective self-reports on the Composite International Diagnostic Interview (CIDI)

³ *Ibid.* Data for nonaffective psychoses do not appear.

forms of anxiety are the most frequent (19%), substance use disorders and affective/mood disorders tie for second place (each with a 12-month prevalence of 11%), and nonaffective psychoses such as schizophrenia, schizophreniform and schizo-affective disorders, delusional disorder, and atypical psychosis, occur infrequently (2–3% based on screening interview, less than 1% of clinician classifications). These disorders are not randomly distributed in the national population (Kessler & Zhao, 1996).

Social Correlates of Mental Disorders

The national household data indicate without proviso that the 12-month prevalence of the “major” disorders declines with increasing income, education, employment outside the home, current marriage, and age (between 15 and 54). In addition, men are significantly less likely to report major affective or anxiety disorders; and women are significantly less likely to experience substance use or antisocial personality disorders. On the whole, the same social conditions protect against experiencing a major mental disorder over a lifetime,³ against a severe and persistent mental disorder, and against high levels of co-morbidity, though the cutting points for the predictions may vary. Although comparative data on ethnicity, urbanicity, and region are not clearcut, and data on status sets (interactions) are just becoming available, the direct relationships between major mental disorders and SES, marriage, age, or gender that emerge in community and special population studies are supported in 12-month national data (Kessler, 1995; Kessler & Zhao, 1999).

In addition, the inverse association between social class and a large number of physical diseases, inactive life expectancy, and mortality rates has long been known to be stable across time, measures, and geographic place, and many physical diseases are gender- or age- specific (Kaplan, 1994; NHLBI, 1998). Generally, however, the risk for physical disease increases with age, whereas the risk for adult mental disorder appears to peak in late adolescence and the early adult years. This fact has not yet been well explained but is hypothesized to be related to the higher levels of anger among younger people found in a recent national survey-- anger linked to involvement with more people, dissatisfaction with family life and financial circumstances, time

pressures in daily life, more shame, less emotional calm, and less sense of control over what happens. (Schieman, 1999)

Social and Psychological Mediators

Not only do NCS data support previously reported links between other social conditions and various *DSM-III-R/DSM-IV* disorders, but early analyses also indicate that adult attachment styles (insecure, avoidant, anxious) and current personality characteristics (including low self-esteem and external locus of control), as well as childhood adversity (loss events such as parental divorce or death, parental psychopathologies such as maternal depression, interpersonal trauma such as rape and other forms of violence) mediate this connection. This supports the relevance of current and cumulative social stress process models to monitoring and reducing the national level of mental disorder (Michelson et al., 1997). What's more, emerging evidence suggests that, controlling for other factors, relationships between childhood adversity and the *recurrence* of adult psychopathology in these national data are specific to those with insecure, anxious, or avoidant attachment styles, and that the effect of childhood violence experiences on the *recurrence* of depression is specific to those with chronic interpersonal stress in adulthood (Kessler and Magee, 1993).

Acute and chronic forms of stress exposure and stress response have also been identified in a growing literature as contributing to the onset and course of a variety of physical illnesses. For instance, the links between stressors and coronary events, and their prognoses, have long been known. And an increasing number of positive findings are accumulating around the onset and course of stress-related infectious diseases (tuberculosis, the common cold and other respiratory illnesses, mononucleosis, HIV infection), as well as various forms of cancer, inflammatory disease and rheumatoid arthritis, chronic fatigue syndrome, and multiple sclerosis (Hall, Altman & Blumenthal, 1996).

Co-morbidity

NCS data also indicate that co-morbidity is pervasive for pairs of disorders defined without the diagnostic hierarchies usually employed in prevalence data. Besides a general component of co-morbidity among the major disorders over 12

months, there appears to be an anxiety-depression co-morbidity component and an antisocial personality–substance abuse component, with non-affective psychoses related to both. The bulk of 12-month and lifetime disorders involve co-morbidity (82% and 79% respectively), with more than half of each involving three or more disorders (59% and 54%) (Kessler & Zhao, 1996).

This co-morbidity may reflect common causes, as the social correlates of the 12-month NCS major disorders suggest, but it may also reflect reciprocal effects or effects of one disorder on another. All of these hypotheses are supported by retrospective, self-report data in the NCS (Kessler & Price, 1993), which already have been employed [in analyses of anxiety-depression-non-affective psychosis and substance abuse–antisocial behavior–non-affective psychosis comorbidities (Kessler, Nelson et al., 1996; Osher & Drake, 1996)], as well as by longitudinal studies in local communities and in clinical studies (e.g., Maser & Cloninger, 1990).

Note, however, that anxiety, depression, alcohol abuse, drug addiction, and various emotional states have been identified in a growing literature as problems contributing to the onset and course of a variety of physical illnesses. For instance, the links between depression and non-insulin-dependent diabetes, anxiety and mitral valve prolapse, as well as anxiety and irritable bowel syndrome have long been known. Conversely, depression is often first discovered following the diagnosis of a chronic disease, such as coronary artery disease, cancer, HIV infection, or diabetes (Kaplan, 1994).

The Burden of Mental Disorder

Whichever causal model holds, earlier mental or physical disorder and its consequences may be antecedent in the relationships between current social conditions and current mental disorders. NCS data, in fact, tell us that individuals affected by a “major” mental disorder are at unusually high risk for social disability and risk-laden life trajectories, as well as for the development of other psychiatric disorders. Impaired educational achievement, a lower probability of marriage or early and unstable marriage, and teenage childbearing are more likely (Kessler, Walters & Forthofer, 1998), as are reduced employment rates, absenteeism, job loss, lower work hours, and lower personal income-- all with implications for financial security, social support, and

mental health. Indeed, half of all major lifetime psychiatric disorders in the general population occur to people with a prior history of some other major psychiatric disorder (Kessler, 1997; Jayakody, Danziger & Kessler, 1998).

Treatment Services

In spite of their projected burdens and considerable progress in the development of efficacious treatment models involving biological, psychosocial, and combined interventions (e.g., Keith & Matthews, 1993; National Institute of Mental Health, 1999), relatively few episodes of major mental disorder are treated (21–25% utilization of professional services for major 12-month disorders among 15- to 54-year-olds in the community). In spite of evidence that mental health specialists are more likely to be effective, most of the professional treatment that does take place is almost as likely to occur outside the mental health specialty sector as inside (9% vs. 12%; Kessler et al., 1994, Table 4; Kessler, Zhao, Katz et al., 1999). It is, in fact, considerably more likely to be provided or administered by registered nurses, social workers, psychologists, and other mental health professionals/paraprofessionals than by psychiatrists or physicians (Witkin et al., 1998).

Although retrospective reports indicate that the probability of no lifetime treatment contact or delays in contact among people with early onset disorders across cohorts is unusually high, particularly for those with childhood-onset mood or anxiety disorders (known to be more severe and disabling than later onset disorders), the majority of other persons who experience a major disorder eventually do seek treatment-- between 6 and 14 years later on average, depending on the disorder (Kessler, Olfson & Berglund, 1998). Co-morbidity does appear to be part of this process, increasing the likelihood of both 12-month (to 34%) and lifetime (to 42%) treatment contact. However, the costs of this delay in additional illness and distress, psychosocial disability, and risk-laden life trajectories, as well as its implications for designing preventive strategies, are still being untangled in the national data set.

What is known is that the *likelihood* of co-morbid substance use, service use, frequent service use, and service use in the mental health specialty sector and in self-help groups increases markedly when severity and persistence of the disorder or level of associated role impairment is taken into account (among 18- to 54-year-olds), but that persons in treatment for other psychiatric disorders are much more numerous. As a result, those who are “seriously ill” by virtue of being severely and persistently disordered or seriously role-impaired constitute less than a third of service visits for psychiatric problems in the previous 12 months, less than a quarter of all people in treatment, and little more than a tenth of all lifetime major psychiatric disorders⁴ (Kessler, Berglund et al., 1996). All together, those with severe and persistent mental disorders or serious role impairment place demands on the mental health service system disproportionate to their number, but the demand from other persons is much larger. Among 18- to 54-year-olds, these other demands come from people with other major disorders (35%), from people who seek psychiatric or medical help for symptoms that do not meet criteria for one of the major disorders measured in the national epidemiological survey (26%), and from people who have had a major disorder in the past but whose current symptoms do not meet criteria for one of the major disorders (16%) (Kessler, Berglund et al., Table 5.4). Both the distress and dysfunction implicit in the presenting symptoms of those who do not meet epidemiological criteria for a major disorder (Kessler, Sonnega et al., 1995; Kessler, Zhao, Katz et al., 1999) and the heightened risk for progression to a more serious disorder are involved (e.g., Kessler, Zhao et al., 1997; Judd et al., 1998; Kessler, Stang et al., 1998; Kessler, Stang et al., in press; Kessler, Nelson et al., 1996; Merikangas et al., 1998).

These published data do not allow even simplistic extrapolations of the unmet need for services among those in the community with an epidemiologically unmeasured psychiatric disorder in their lifetime, or in remission from an earlier disorder. However, some 53% of the portion of the community population that met the

⁴ 18–54 year olds.

definition for a serious mental illness in the past 12 months had not sought professional help, and some 82% of those who met the definition of some other epidemiologically measured psychiatric disorder in the past 12 months had not sought professional help. In other words, *approximately* 17% of the community population as a whole had diagnosable, epidemiologically measured, major disorders but had not sought professional help. So far, we know that for those who met the criteria for a serious mental illness, youth (being 18- to 34-year-old) and having an income under \$70,000 distinguished them from those who had sought help.

A comparison of the 1990 U.S. National Co-morbidity Survey and the 1990 Mental Health Supplement to the Ontario Health Survey tells us that Americans with the lowest incomes and high morbidity are much less likely to receive services for mental health problems than a similar group of Canadians with universal and comprehensive insurance coverage. However, Americans with relatively high socioeconomic status and low levels of mental morbidity, as defined by the survey criteria for major disorders, are much more likely to receive services for mental health problems than a similar group of Canadians. Lack of insurance coverage for low-income Americans and a greater prevalence of “perceived need for care”-- awareness of symptom implications and readiness to act-- among Americans of higher socioeconomic status statistically explain most of the differences between the two populations (Katz et al., 1997).

The Changing Practice Context

The number of disorders clinically recognized in current diagnostic guidelines of the American Psychiatric Association (APA; 1994) and by the World Health Organization (WHO; 1992) is considerably larger than the number included as major in epidemiological surveys in this country. This fact lends additional importance to the availability and utilization of prevention strategies to reduce service need. Although both stress and adjustment reactions and the psychosocial problems-- which the researchers in this volume have found to increase the likelihood of other disorders and to explain the social distribution of a number of *major* disorders-- are included in the

APA and WHO diagnostic systems, their salience is limited to persons for whom the presumptive etiological importance of a stressful event or continuing unpleasantness of circumstances is judged to be clear and severe, or to persons for whom this is the primary focus in clinical intervention. Yet, both can bring increased risk for dysfunction as well as distress, and both involve hierarchical diagnostic schemes and subjective criteria that shift the focus away from coordinated intervention planning and evaluation.

Klerman (1990) has pointed out that with the arrival of operationalized diagnostic criteria, the high degree of co-morbidity among *DSM-III-R*'s Axis I clinical disorders, Axis II personality disorders, and Axis III medical conditions had become more apparent to practitioners as well as to researchers (American Psychiatric Association, 1987). This realization led to widespread dissatisfaction with the existing diagnostic system's heavy reliance on manifest symptoms and behavior and renewed interest among theorists and researchers who were searching for underlying etiologic processes in clinical symptom complexes. Five approaches stood out in Klerman's mind: not only psychobiology and genetics; but also degrees of mental health and mental illness (usually conceptualized as a continuum) that are associated with the interactions and transactions of multiple factors (usually various social conditions); stress dynamics; and psychosocial development (which grew out of psychoanalytic approaches to underlying personality organization and character structure).

By 1994 the *DSM-IV* (American Psychiatric Association, 1994) included a fourth axis on psychosocial and socio-environmental problems, as well as clinical diagnoses (Axis 1) based on psychosocial or socio-environmental problems as the *primary focus of clinical attention*.

Axis 4 is based on prevailing clinical assumptions about psychosocial problems and their relation to mental disease:

- “A psychosocial or environmental problem may be a negative life event, an environmental difficulty or deficiency, a familial...or other problem relating to the context in which a person's difficulties have developed” (American Psychiatric Association, 1994, p. 29).
- Positive stresses are listed “...only if they constitute or lead to a problem.”
- “In addition to playing a role in the initiation or exacerbation of a mental disorder, psychosocial problems may also develop as a consequence of a

person's psychopathology or may constitute problems that should be considered in the overall management plan.”

This axis is seldom used in clinical reporting and probably will not be used unless it is incorporated into the information required for insurance reimbursement (M. Furst, personal communication, January 25, 1999).

Axis I clinical diagnoses consider psychosocial problems but distinguish between cases in which they are the primary focus of clinical intervention⁵ and those in which they are not. If secondary, the information on psychosocial and socio-environmental problems is essentially lost. If primary, the case is placed in a residual category differentiated into:

- coping styles, maladaptive health behaviors, and stress-related physiological responses that significantly affect the course or treatment of a medical condition
- relational problems associated with a mental disorder or general medical condition
- problems pertinent to victimization through abuse or neglect
- inappropriate behavioral responses to treatment of a mental disorder or general medical condition (e.g., “noncompliance”/“malingering”)
- antisocial behavior not due to a mental disorder
- age-related cognitive decline not attributable to a specific mental disorder or neurological condition
- phase-of-life problems involving transitions or identity problems that engage the person in multiple issues related to moral values, group loyalties, and long-term goals, but that are not due to a mental disorder or sufficiently severe to warrant independent clinical attention (e.g., bereavement)
- various problems in meeting behavioral or belief standards in academic, occupational, spiritual, or cultural adjustment, not due to a mental disorder or sufficiently severe to warrant clinical attention

The Federal Health Care and Financing Administration for Medicare and Medicaid reimbursements uses the *International Classification of Mental and Behavioural Disorders (ICD)*, however, with official crosswalks (translations) from *DSM-IV* diagnoses to *ICD* diagnoses available. The *ICD-10* (WHO, 1992), which is being clinically modified for reimbursement coding in the United States, includes

⁵ Either because there is no other mental disorder, or there is a mental disorder unrelated to the problem, or the problem is so severe it warrants attention independent of the disorder.

diagnoses focused on common reactions to stress and adjustment problems that involve severe distress and interference with functioning. Diagnoses range from: *acute and post-traumatic stress reactions*; to *brief and prolonged depressive reactions to adjustment problems, mixed anxiety and depression*, and *other emotions and conduct disturbances associated with adjustment reactions*. These diagnoses are grouped in a major category with various forms of anxiety, dissociation, and somatoform reactions largely because of their historical association with the concept of neurosis and psychological causation. Nonetheless, where the presumptive etiological importance of a stressful event or continuing unpleasantness of circumstances is unclear or “less severe,” other diagnoses are used, and the psychosocial context is largely lost to an emphasis on underlying biochemical processes and treatments.

The Changing Service Context

Issues in the changing context of practice are taking on considerable significance to Federal, State, and local governments as mental health services become part of the recent growth of managed care into the dominant mechanism for funding and organizing the general provision of health services. Monitoring, regulation, and supplementation of these efforts are becoming governmental concerns. Fifteen percent of the American population (40 million persons) are currently estimated to be without health insurance, but most of the population (85%) is now covered: 182 million (70%) through private insurance, usually through plans developed by employers, unions, or voluntary associations; 33 million through Medicare; and 32 million through Medicaid. Although provisions for mental health services in this insurance coverage are only partially known at this point (Center for Mental Health Services, 1996, 1998), the importance of this funding source in mental health treatment is apparent in a recent report that \$79 billion was spent for mental health and substance abuse problems in 1996. Government funding (Medicare, Medicaid, and other Federal, State, and local government programs) paid for most of the treatment for alcohol, drug, or mental

health problems-- the lowest governmental share being 53% of treatment costs for mental disorders⁶ (Medstat, 1996).

The term managed care usually refers to either a health maintenance organization, “with a predetermined payment for providing an established range of benefits over a specified period,” or a utilization management organization, which monitors, reviews, and guides insured processes of care.

In the mental health and substance abuse fields, managed care organizations have generally taken the form of “carve out” firms that provide utilization review only for mental health and substance abuse problems. Since 1990, these firms have expanded their operations to include provision of services through directly owned or contracted networks of providers. Collectively these activities are being referred to as behavioral health care (Manderscheid & Henderson, 1996, pp. 17–18).

Behavioral health care has been based, to a large degree, on groundwork laid by Federal legislation between 1963 and 1981. The original Community Mental Health Centers Act (PL88-164) expanded NIMH by adding new missions to its research, training, and research-translation activities with the States: to provide acute care in local communities as an alternative to State and county hospitalization; to reduce the number of those at risk of mental disorders; and to increase community awareness of sound mental health practices. The intent was more to keep people healthy or to restore and maintain their health in the community than to replace State and county hospitals caring for the severely and persistently ill (Foley & Sharfstein, 1983). This mission changed with the cost-cutting that accompanied the human and legal benefits of de-institutionalization. People with severe and persistent mental disorders were discharged into the community by State and county hospitals, often without coordination or transfer of funding or personnel to progressively strained mental health and social service programs in the local community (Mechanic, 1980).

In 1980 the Mental Health Systems Act (PL96-398) specifically provided both for community services for people with severe and persistent mental disorders-- with special attention to needs such as support and shelter for patients discharged from

⁶ A 1985 analysis of the economic costs of alcohol and drug abuse and mental illness in 1985 is available. For detail, see Rice et al., 1990.

State hospitals as “better but not well”-- and for a categorical prevention grant program and a prevention office, along with services involving early detection and intervention, and prevention of risk factors for mental illness. At that point, multidisciplinary personnel had become available, with psychologists, social workers, counselors, psychiatric nurses, and paraprofessionals supplementing physicians and psychiatrists to provide the bulk of services. Both personnel and services were redistributed to better treat previously underserved populations (nonwhites, youth, aged, rural residents). Federal dollars had stimulated a substantial local financial stake in community-based service organizations, and mental health services were more accessible. And, the process of developing and testing prevention methodologies and services was under way, if not yet clear-cut in effect (Foley and Sharfstein, 1983).

Less than a year later, a new administration with a different philosophy of Federal-State relations substantially repealed the Mental Health Systems Act of 1980 and put in place the 1981 Omnibus Budget Reconciliation Act. A block of services funds for severe and persistent disorders was provided to the *States* rather than to local communities; the Federal role was changed from that of directing the program to channeling funds to the States and stimulating services demonstrations, with the 1980 funding markedly reduced. In 1992 PL 102-321, the Alcohol, Drug, and Mental Health Administration Reorganization Act, moved the mental health block grant service program and service demonstration activities into the new Administration on Substance Abuse and Mental Health Services; NIMH research activities were reorganized to emphasize severe and persistent mental disorders.

Today many States are shifting their Medicare and Medicaid funds into managed care organizations to further reduce the costs of providing service to people with severe or persistent mental disorders, and issues have emerged around mental health parity in access to managed care services, the quality of those services, and the feasibility of conducting consultation, education and prevention activities through managed care organizations. They include:

- Providing access for those without insurance and providing parity of mental health coverage for those who do

- Improving availability, quality, accessibility, and monitoring of health promotion and disease prevention services in managed care organizations, particularly in the mental health area, given the diversity of organizational goals and objectives, structures, management strategies, and regulatory relationships⁸
- Reconciliation of the long-term payoffs expected from introduction and expansion of mental health treatment and prevention services with the short-term and cost-reduction priorities of the for-profit organizations that dominate the “carve out” industry
- Working out arrangements that maximize potential cost offsets by integrating medical and mental health services-- clinically identifying and dealing with the role of physical disorders in the onset and course of mental disorders, and the role of mental disorders in the onset and course of physical disorders-- given the time and cost-containment pressures on physicians in many managed care settings and the “carve out” trend in the provision of mental health services
- The feasibility of incorporating into service design, translation, and monitoring the shifting service paradigms reflected in movements toward accountability and consumer/family involvement⁹

However, recent federal parity legislation (P.L. No. 104-204) overrides exclusions that had exempted from State-level parity legislation at least one-third of the population covered by self-insured employers. The State Children’s Health Insurance Program under Title XXI of the Social Security Act (P.L. No. 105-33) now enables States to provide health insurance coverage for uninsured children through an enhanced Federal match of State expenditures, and the coverage includes the parity requirements of the Mental Health Parity Act. This shifting of government funds into managed care and cost-containment and marketing pressures in behavioral health are increasing attention to consultation, education, and prevention-- at least in stable managed care organizations, where long-term cost offsets can accrue from reductions in demand for both mental health and medical services. All together, the possibility is emerging that community and clinical prevention strategies are not so much part of the

⁸ Mechanic (1996) has suggested that with the complexity of managed care arrangements, the many difficulties in conducting research on the ground of a highly competitive industry, and the high financial stakes involved, the most useful research is likely to involve guidance “to managed care providers about best practice, [to] purchasers about what and how to buy and how to evaluate products, and [to] regulators as to those practices requiring close surveillance or of those amenable to change” (pp. 13–14).

⁹ See Manderscheid (1998).

problem in funding mental health services as part of the solution-- a solution serving the interests of both social justice (Shine, 1998) and fiscal prudence (Seligman, 1998).

Economic Costs

For policy purposes, multiple indicators of the burden of disorder can be bundled into a *utility loss* model that conceptualizes disability as loss of time spent in productive work and permits relative rankings of different disorders to inform decisions about the deployment of resources. Recently, for instance, the WHO recognized the need to take nonfatal conditions and their risk factors into account along with premature death in assessing a population's health status. In the *Global Burden of Disease* (Murray & Lopez, 1996), disabling burdens of health conditions such as those described in the NCS-- and their sequelae-- are converted into a statistic on years of healthy life lost to disability; and combined with a statistic on years of life lost to premature death¹⁰ in a single number that can be compared across illnesses by policymakers: disability adjusted life years (DALYS). "The leading causes of disability are shown to be substantially different from the leading causes of death, thus casting serious doubt on the practice of judging a population's health from its mortality statistics alone" (Murray & Lopez, p. 21).

This more complex measure of health indicates that the burden of psychiatric conditions had been heavily underestimated in the past. In 1990, 6 of the 10 leading causes of disability worldwide were psychiatric conditions.¹¹ Although their burden was highest in the established market economies (including the United States), the six psychiatric conditions made the most important contribution to years lost to disability in all regions except Sub-Saharan Africa. Anxiety was the most prevalent of the psychiatric conditions, but unipolar major depression, a mixture of anxiety and depressive symptoms, was *the* leading cause of disability. Given the procedures used

¹⁰ Death before the age to which the dying person could have expected to survive were he or she Japanese, the world's longest-surviving population.

¹¹ Unipolar major depression, alcohol use, bipolar disorder, schizophrenia, obsessive-compulsive disorders.

to estimate first approximations of both disease incidence and disability-adjusted life years in this groundbreaking study, however, the findings should be treated as tentative.

The WHO analyses also focus on the crosscutting risks of individual behavior, the physical environment, occupational class, and other diseases as contributing factors amenable to change. Again a single statistic was developed, this time to compare the burdens of multiple diseases linked to each of 10 risk factors¹² and each of 10 antecedent diseases.¹³ The researchers report marked differences among regions and between men and women in the burdens of most risk factors, but volume IX, *Quantifying Global Health Risks*, is not yet available and the *Summary* is not sufficiently detailed to permit thoughtful elaboration here. In a parallel effort the World Bank is conceptualizing the social capital required for the development of the physical and human capital identified as protective factors in *The Global Burden of Disease*, studying the relationship between various forms of community and trust and the success of crosscutting interventions at macro and micro levels (Feldman & Assaf, 1999).

National economic studies of mental illness that use data on adverse outcomes of major mental disorders in the United States, as well as data on the degree of causality between mental disorders and outcomes, have been ongoing for at least 40 years. In general they too have taken a utility loss approach, usually employing a prevalence-based, human capital methodology and measuring the loss of national resources due to disease-related reductions or loss of productivity, such as premature death, reduced time in productive work, and leaving the workforce-- indirect measures to which *cost values* are assigned. A supplemental *direct cost measure* is usually employed as well to assess the loss of national resources through expenditures for the treatment of disease, with untreated cases assumed to lead to an increase in the percentage of indirect costs (Rupp et al., 1997).

¹² Malnutrition, poor water supply, sanitation and personal and domestic hygiene, and air pollution; unsafe sex, tobacco use, alcohol use, illicit drugs, physical inactivity; hypertension; and occupation.

¹³ Chagas' disease, onchocerciasis, trachoma, and hepatitis B and hepatitis C; cataracts, glaucoma, and diabetes mellitus; sexually transmitted diseases; and unipolar major depression.

Two early efforts in this tradition extrapolated national epidemiological data from community studies to estimate national costs. Fein (1958) focused on the aggregate cost of mental illness, providing diagnosis-specific information only for indirect cost estimates; Rice et al. (1990) provided both indirect and direct cost estimates, by major DSMIII diagnosis. More recently, Harwood, Fountain, and Livermore (1998) provided both indirect and direct cost estimates for alcohol and drug abuse or dependence, employing 12-month prevalence data from the 1992 National Household Survey on Drug Abuse. Greenberg et al. (1999, 1996) have estimated indirect and direct national costs for major anxiety disorders (including post-traumatic stress) as well as for depression *in the employed population*, using NCS (1990–92) 12-month prevalence data, supplemented by extrapolations from other data sources for adults over 54 years of age.

The populations, purposes, measures, and assumptions of these studies have been varied.

The earlier work was designed primarily to facilitate policy on services within the mental health system and linkages with medical, criminal justice, social service, and self-help/family sectors, with a progressive emphasis on reducing indirect–direct cost ratios, reducing cost ratios of residential–nonresidential service components, and identifying problematic patterns. The resulting profiles of lost productivity, services, and costs for major anxiety, drug abuse, alcohol abuse, depressive, and non-affective psychotic disorders were distinctive and informative. Multi-system, total cost estimates were as high as \$273 billion dollars in 1988 (Rice et al.).

The more recent work by Greenberg and his associates focuses on indirect *worksite* costs in reduced productive capacity due to “excess” absenteeism and reduced productive capacity while at work, for both major depressive disorders and major anxiety disorders. Although these studies reflect a number of methodological improvements, the use of direct cost data based on earlier epidemiological data, the restriction of indirect costs for anxiety disorders—with their delayed treatment seeking and long-term effects—to a 1-year period, and the treatment of age, gender, education, and co-morbid psychiatric conditions as confounds obscuring independent estimates of

indirect costs is disappointing for those who are interested in the costs of altered life trajectories linked to joint effects.

Even more to the point of the fiscal prudence of preventive intervention strategies, however, is the general absence of national estimates of potential reductions in costs-- direct or indirect-- that might be expected to accrue *across disorders* from various risk factor interventions. Given their unavailability until recently, even the use of national estimates of potential reductions of costs, pathology, or risk that might be expected to accrue *for a given major disorder* by addressing particular risk factor interventions is difficult to find in evaluations of model interventions in special populations or community populations. *Most such evaluations of indicated interventions with those already ill focus on short-term outcomes of alternative intervention models* (e.g., Goldberg, 1991; Hoult & Reynolds, 1984; Weisbrod, 1983; Bond et al., 1988; Jerrell & Hu, 1989, relative to the Program of Assertive Community Treatment; Revicki, Smith, & Sorensen, 1999, relative to neurologically-based, antidepressant therapies). *Economic evaluations of universal and selected preventive intervention models are beginning to move beyond direct cost to employ indirect cost models as well* (e.g., Karoly et al., 1998). The expansion of this work at both the national and local community levels is increasingly important to responsible policy decisions.