

Barriers to Employment among Persons with Mental Illness:

A Review of the Literature⁺

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Executive Summary

There is a strong relationship between mental illness and work-related disability. Psychiatric illnesses comprise the largest diagnostic category among working-aged adults who receive Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI). Moreover, many persons with disabilities related to other general medical conditions also have psychiatric comorbidities that complicate return to work. Yet, while it is clear that mental illness is associated with difficulties in vocational preparation, work entry, and continued employment, many persons with such conditions are able to secure and maintain employment. This review seeks to summarize what is known about barriers to work that may explain why some persons with mental illness and significant symptoms experience a work-related disability, while others do not. Additionally, characteristics of vocational programs that are associated with return to work among persons with psychiatric conditions are examined.

The review summarizes what is known about barriers to employment in four areas: (a) illness characteristics; (b) client characteristics; (c) access to services and mental health treatment; and (d) characteristics of the workplace and labor market. It is argued that there is a need for more general population studies considering how these barriers shape work-disability among persons with primary and comorbid psychiatric conditions.

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Key Findings from the Literature

The SSI/SSDI population:

- In 1999, approximately 34% of working aged adults receiving SSI and 27% receiving SSDI qualified due to a mental illness;
- The growth in number of recipients of SSI/SSDI qualifying due to a mental illness has surpassed the growth in other diagnostic categories;
- Persons with mental illness are younger and stay on the rolls longer than persons with other conditions; and
- About one-half of persons with severe mental illness receive disability payments.

General Population Studies:

- National surveys indicate that the percentage of persons with a mental illness who are employed ranges from approximately 44% to 72%;
- Schizophrenia and related conditions are associated with the lowest rate of employment, ranging from 22% to 40% in national surveys;
- Comorbid psychiatric conditions reduce rates of employment for persons with physical conditions; across national surveys approximately 20% fewer of individuals with both physical and mental conditions report being employed than individuals with a physical condition;
- Most persons, including those with severe mental illnesses, report that they want to work;

- Neither illness characteristics nor client characteristics fully explain work disability among persons with psychiatric disability; and
- Workplace characteristics such as the stigma associated with mental illness, the lack of accommodations, and labor market characteristics are central barriers to employment among persons with mental illnesses, yet they have received little research attention.

Vocational Programs:

- Traditional vocational programs (prevocational training, skills training, sheltered work) remain popular, yet research evidence indicates low rates of success at returning clients to competitive work;
- Supported employment programs are more successful at securing competitive employment for persons with psychiatric conditions; and
- Accelerated entry into competitive work, integrated mental health services, and ongoing supports offered to clients are central to the success of supported employment programs.

Conclusions

Vocational programs should address the primary and comorbid psychiatric conditions of clients. Efforts to alleviate the mental health problems of clients, such as symptoms of depression, are likely to reduce the work-related disability associated with physical conditions.

Programs that adopt a supported employment model will achieve higher rates of employment among clients with psychiatric conditions than traditional vocational program models. Yet, while supported employment programs appear to achieve higher rates of success for clients, this model remains relatively uncommon. Efforts should be directed toward addressing this disconnection between current program practices and the research evidence.

Interventions for persons with mental conditions are likely to be more effective if they occur early, rather than later in the course of disability. The first-onset of mental illness is often early in life, and once on disability programs, length of stay among persons with mental illnesses tends to be long. Early intervention increases the chances of preventing long-term, severe work-disability.

Understanding the connections between mental illness and work requires looking beyond the population receiving disability income. Investigation of barriers to work in community-based samples will contribute to a better understanding of the ways in which mental illness translates into a work disability for some persons and not for others.

Barriers to Employment among Persons with Mental Illness: a Review of the Literature

I. Background

It has long been recognized that mental illness is a major cause of disability. The Global Burden of Disease project estimates that psychiatric conditions are associated with about one-quarter of the disability in the world. Moreover, five of the ten leading causes of disability are mental disorders (Andrews, Sanderson, & Beard, 1998). In the United States, the employment-related financial consequences of psychiatric and substance use conditions are staggering; estimates indicate that mental illness accounts for most of the economic costs (59%) that stem from injury or illness-related loss of productivity, followed by alcohol abuse (34%) (Rouse, 1995). The large number of beneficiaries of Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI) is evidence of the strong connection between mental illness and work-related disability. However, many persons with mental illness are able to sustain some level of employment. Thus, while it is clear that mental illness complicates vocational

preparation, work entry, and continued employment, a central question remains unresolved: how are some persons with mental illness and significant symptoms able to obtain and maintain employment while others are not?

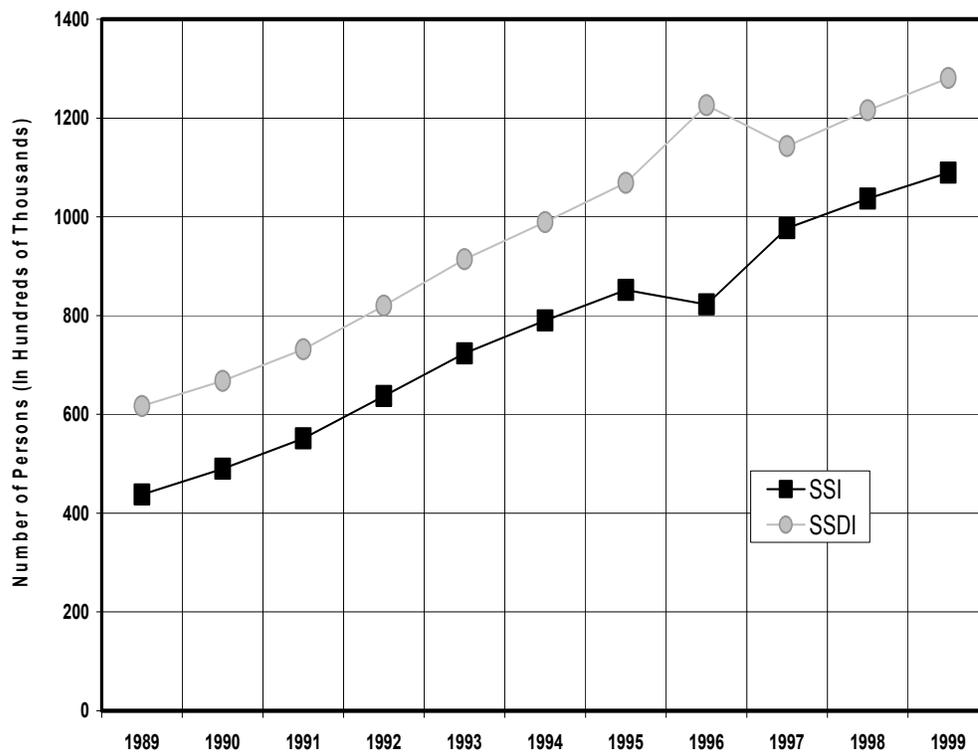
This review summarizes what is known about barriers to employment for persons with mental illness. Characteristics of persons who have met the criteria for work disability according to (SSA) criteria and are beneficiaries of SSI or SSDI are outlined. General population studies, however, may be more informative about the processes through which mental illness may result in work disability than are studies of persons who are already receiving disability income. Unlike prior reviews that have generally been narrowly focused, this review synthesizes research about mental illness and employment in the general population, among the most severely mentally ill, and among individuals in vocational programs. This research suggests that there may be four types of barriers to employment among individuals with mental illness: (a) illness characteristics; (b) client characteristics; (c) access to services and appropriate mental health treatment; and (d) characteristics of the workplace and the labor market. Evaluation studies of vocational programs that identify ways in which barriers to employment have been successfully reduced are reviewed. Based on the findings in these areas, policy implications and suggestions for further research are offered.

II. Mental Illness and Social Security Programs

The population receiving disability benefits has received the most attention from policy makers, because of concerns about growing government expenditures in the SSI and SSDI programs. Data about this population are limited, however, because they do not address the central issue of how mental illness results in work disability or the characteristics that distinguish persons able to sustain employment from persons in disability programs.

As shown in Figure 1, the number of persons between 18 to 64 years of age receiving either SSDI or SSI because of a mental illness (excluding mental retardation) more than doubled between 1989 and 1999. These increases surpassed the growth in the number of persons with other disabilities in these programs. Consequently, the proportion of workers in the SSDI program disabled by a mental illness increased from about 23% to 27% over the ten-year period, while the proportion of SSI enrollees aged 18 to 64, who qualified based on a psychiatric diagnosis, increased from 26% to 34%. If mental retardation diagnoses are included in the definition of mental disorder, 59% of adults collecting SSI and 31% of adults on SSDI qualified due to a mental disorder in 1999.

Figure 1: Number of Persons 18 to 64 with Mental Illness Receiving SSI and SSDI Benefits 1989-1999



Source: Social Security Administration, Annual Supplements to the Social Security Bulletin, 1990-2000.

Persons receiving SSDI or SSI due to a mental illness are younger than enrollees disabled by other conditions. In 1999, approximately 22% of disabled workers with a mental illness (excluding mental retardation) were under 35 years of age, compared to 10% of workers disabled by other conditions. Similarly, about 38% of adult beneficiaries of SSI who qualified due to a mental illness were under 40 years of age, compared to 27% of beneficiaries with other conditions (excluding mental retardation) (SSA, 2000). Less is known about the specific diagnoses of persons with mental illnesses in these programs. However, data from 1993 indicate that about one-third of individuals with mental illness in SSI qualified with a diagnosis of schizophrenia (Kochhar & Scott, 1995). It has been suggested (Estroff, Patrick, Zimmer, & Lachicotte, 1997) that the largest growth in disability rolls has been for persons with affective disorders, although there is no thorough investigation of reasons for changes in the prevalence of specific diagnoses.

Persons with mental disorders stay on the SSI rolls longer than individuals with other disabilities. A follow-up of persons first receiving benefits in 1974, for example, found that only about 11% of adults with psychiatric disorders left before the first year, while almost 30% received benefits for at least 10 years. The only other diagnostic groups showing similarly long durations on the rolls were persons with mental retardation, congenital conditions, or diagnoses related to the central nervous system (Kochhar & Scott, 1995). Persons with psychiatric impairments have similarly long stays in the SSDI program. Of persons first awarded SSDI in 1972, the average enrollment period for persons with mental disorders was 15.6 years, the longest stay of any diagnostic group (Rupp, & Scott, 1996).

It is only a minority of persons with psychiatric disorders who receive SSI or SSDI benefits and only about one-half of individuals with the most severe mental disabilities receive

income from these programs (Estroff, Patrick, et al., 1997). Over 32 months, Estroff, Patrick, et al. followed a sample of 169 persons, who were early in their illness, to determine what leads to application to these programs and receipt of disability payments (Estroff, Patrick, et al., 1997; Estroff, Zimmer, Lachicotte, Benoit, & Patrick, 1997). About 47% of the sample applied for SSI or SSDI, and 75% of this group became recipients. Persons who applied for disability income had more severe symptoms such as feeling confused and helpless, were more likely to report at least one difficulty with activities of daily living, and had more days in the hospital during the study period than persons who did not apply. In addition, applicants were more likely to be financially dependent on family, and to perceive themselves as more emotionally dependent on significant others, than were non-applicants. Compared to the applicants who were determined to be ineligible, persons who received disability income also had more clinical symptoms, were more financially dependent on family, had smaller social networks and were less likely to be living with a spouse. African-Americans also disproportionately received disability payments, perhaps because of compound disadvantages of race, psychiatric impairment and low socioeconomic status.

This research suggests that applicants who receive disability benefits are persons with the most significant impairments and lack of social and economic resources. Moreover, Estroff, Patrick (1997) and Estroff, Zimmer et al. (1997) work suggests that the pathways to these programs are often quite difficult for many persons. Many had repeatedly tried to work and relied on family financial support for long periods of time. Moreover, only 14% had applied for disability programs themselves, while in 36% of cases the family initiated the application, and in approximately 43% of cases mental health workers initiated the application for benefits.

This information confirms that current SSI and SSDI recipients with mental impairments are severely disabled in ways that impede social and financial independence. However, available data from the (SSA) allow only a basic understanding of the relationship between participation in these disability programs and mental illness. Even simple estimates of the prevalence of mental illness are likely to grossly understate the problem because they do not include individuals disabled by other conditions who have co-existing mental disorders that may complicate entry into or return to work. Data from the 1994/1995 National Health Interview Survey on Disability (NHIS-D), for example, indicate that approximately 20% of adults in the SSI program, and 18% of working aged adults in the SSDI program have both mental and physical problems.

The prevalence of substance use disability among the SSI and SSDI populations is also unclear. In 1997, persons primarily disabled due to alcohol or drug use were determined to be ineligible for participation in these programs. Only 67% of individuals who lost their benefits reapplied, of whom about 35% were recertified due to other disabling conditions, a percentage much lower than the 70 % that was expected (Swartz, Lurigio, & Goldstein, 2000; Watkins, Wells, & McLellan, 1999). While substance use may no longer qualify as a disability under SSI or SSDI, research from clinical samples (Mirin, Weiss, Griffin, & Michael, 1991; Allan, 1995; Schuckit et al., 1995; Penick, et al., 1994) suggests that many persons in these programs are likely to abuse substances in a way that compounds the work disability associated with other psychiatric or physical health problems.

III. Employment and Type of Psychiatric Illness in General Population Samples

General population studies underscore that psychiatric disability is often part of a more complex range of problems that may include physical or medical conditions, or alcohol or other substance abuse. They also provide some information about employment rates among persons

with specific types of mental illness and whether persons with multiple conditions differ with regard to employment status and experiences. Thus, the general population data might provide a starting point for determining the type of information that needs to be collected from disability recipients, as well as preliminary suggestions for the type of supports that would be necessary to increase vocational successes.

There is considerable evidence from general population studies that mental illness or substance abuse alone can directly limit labor force participation, either by diminishing worker productivity or prohibiting having a job at all. For example, analyses of data from the National Comorbidity Survey (NCS) (Ettner, Frank, & Kessler, 1997) and data from the Healthcare for Communities study (HCC) (Sturm, Gresenz, Roan, Pacula, & Wells, 1999) show that psychiatric disorders significantly reduce employment for men and women. Studies that evaluate the effect of mental illness on work productivity typically assess the number of days the worker was unable to function normally because of his/her illness and the number of days absent due to the illness. A study based on a sample of employees found that individuals with mental illness spent more days on short-term disability than individuals without mental illness (Conti & Burton, 1994). Kouzis and Eaton (1997) found that persons in the community with a mental disorder are more likely to miss days from work than persons with a chronic physical disability.

Affective disorders in general and major depression in particular, consistently have a strong association with work loss (Broadhead, Blazer, George, & Tse, 1990; Conti & Burton, 1994; Dewa & Lin, 2000; Kessler & Frank, 1997; Kouzis & Eaton, 1994). Longitudinal studies show that unemployed persons who fail to gain employment have more depressive symptoms than individuals who become employed (Bolton & Oakley, 1987; Kessler, Turner, & House, 1989; Shamir, 1986; Simon, et al., 2000), and that employed persons who lost their jobs are

twice as likely to be depressed as persons who remained employed (Dooley, Catalano, & Wilson, 1994). Of the anxiety disorders, all but simple phobias are associated with impairment in work performance, primarily with regard to lost productivity as opposed to absenteeism (Greenberg et al., 1999). When panic disorder co-occurs with depression, the reduction in days worked is significantly higher than when either occurs alone (Roy-Byrne et al., 2000). Community samples in Europe and the U.S. have also shown that “subthreshold” social phobia and depression (i.e. symptoms are present, but not sufficient to qualify for disorder diagnosis) increase the risk of unemployment, work days missed, and reduced work performance, although not to the same degree as full disorders (Judd, Paulus, Wells, & Rapaport, 1996; Wittchen, Fuetsch, Sonntag, Muller, & Liebowitz, 2000).

Data on labor force participation rates also indicate that persons with psychiatric disabilities are disproportionately excluded from employment when compared to persons with other types of disability. Trupin, Sebesta, Yelin, and LaPlante (1997) examined labor force participation (in or looking for work) for persons with various disabilities using data from the National Health Interview Surveys (NHIS) conducted from 1983 through 1994. They found that the labor force participation of persons with mental disability increased approximately 18% over the study period, but was consistently about 25% lower than for persons with other disabilities.

Further evidence of the connection between psychiatric illness and employment status is presented in Table 1, which includes employment rates for major diagnostic categories derived from four national surveys. Across the four studies, the percentage of working age adults who were employed varies from 75% to 83%. All four surveys indicate that employment rates are much lower among persons with a mental illness than among the general population. In the 1989 NHIS survey, just over one-half of persons with a mental disorder were employed, compared to

Table 1.
Percentage of adults who are employed by diagnostic group.

	NHIS		NHIS-D		NCS		HCC	
Year	Mental Health Supplement, 1989		1994/95		1990/92		1997/98	
Sample Age	(18-64)		(18-64)		(18-54)		(18-64)	
Group	%Adults	CI	%Adults	CI	%Adults	CI	%Adults	CI
Any Mental Disorder	51.4	(48.7/54.0)	43.9	(42.1/45.7)	71.7	(67.8/75.6)	66.4	(62.5/70.4)
Depression	51.2	(47.5/54.9)	44.4	(42.2/46.6)	71.3	(66.2/76.4)	64.8	(61.1/68.4)
Substance use Disorder	65.0	(59.9/70.2)	54.1	(50.3/57.8)	74.7	(70.0/79.4)	82.8	(79.0/86.7)
Schizophrenia & related	21.8	(16.7/27.0)	23.7	(19.9/27.5)	NA	NA	39.6	(29.0/50.2)
Other Mental Disorder	51.9	(48.3/55.5)	42.7	(40.4/45.0)	71.1	(66.8/75.4)	73.4	(66.4/80.4)
Mental Disorder Substance	47.3	(32.4/62.2)	50.6	(40.3/60.8)	76.2	(68.6/83.8)	90.4	(82.2/98.7)
Physical Condition	69.2	(68.5/70.0)	58.7	(57.8/59.6)	85.3	(82.0/88.6)	77.0	(75.0/78.9)
Physical + Mental Disorder	46.8	(43.7/49.9)	36.4	(34.1/38.7)	67.0	(60.9/73.1)	59.1	(53.4/64.7)
Physical + Substance	55.9	(47.9/63.9)	51.5	(45.1/58.0)	81.0	(72.5/89.5)	83.5	(77.0/90.0)
Total	75.4		75.4		82.9		80.3	
Study design	Nationally representative household sample		Nationally representative household sample		Nationally representative household sample		Nationally representative household sample from 60+ communities	
N (unweighted)	70,327		120,216		5,393		8,047	

Note: NA = Not available; NHIS = National Health Interview Survey; NHIS-D = National Health Interview Survey on Disability; NCS = National Comorbidity Survey; HCC = Health Care for Communities; %Adults = Percentage of adults; CI = 95% confidence intervals

44% in the 1994/1995 NHIS. The Health Care for Communities survey (HCC) and the NCS include diagnostic interviews to measure selected mental disorders, and compared to the NHIS show somewhat higher rates of employment among persons with a mental disorder, 72% and 66% respectively. Individuals with comorbid mental and physical disorders are shown to consistently have lower rates of employment than persons with only a physical disorder. In each survey, persons with schizophrenia and related disorders report the lowest rates of employment, ranging from 22-40% across the three studies that include adequate sample sizes for this group.

Differences in the estimates of the percentage of persons with mental illnesses who are employed are partly due to differences in the measurement of mental disorder. The NHIS requires individuals to report conditions and diagnoses, and it is likely that those that are the most severe will be reported. Measures of mental illness in the NCS and the HCC rely on symptom reports and capture illnesses that are not associated with serious deficits in functioning. Thus, it is not surprising that the employment rates observed in the NCS and the HCC are much higher than those observed in the NHIS surveys.

Data from each of these surveys have both strengths and limitations for more adequately exploring the connections between employment and mental illness. The NCS includes the most comprehensive measures of mental disorders based on a diagnostic interview to assess the presence of disorder defined by DSM-III-R. However, the measure of employment is limited to a question asking about current work status. In the 1989 Mental Health Supplement and the NHIS-D a household member is asked about the mental health problems experienced by others in the household. This method of data collection has been found to underestimate the prevalence of disability, particularly those that are not easily observed (Todorov & Kirchner, 2000). The 1989

and 1994/1995 NHIS also included a checklist of specific mental disorders experienced in the past 12 months such as schizophrenia, manic depression, and drug and alcohol disorders as well as a residual category of “other mental disorder.” In both surveys, additional mental disorders could be ascertained by responses to questions about conditions that limited functioning; if a mental disorder was listed as a cause of the limitation the person was categorized as having a current mental illness. These surveys are limited because they are self or proxy reports of conditions and because the stigma associated with mental illness may lead to underreporting. On the other hand, the NHIS surveys contain more detailed measures of work status, limitations and functioning, and the 1994/1995 NHIS contains detailed information about perceived barriers to work among persons who are not employed. These surveys were conducted in different years, and the HCC has the advantage of being the most recent data available. It also includes characteristics of communities, allowing analyses of the impact of labor market characteristics on employment outcomes among persons with mental illnesses. Each of these surveys is limited by small samples of persons with the most severe mental disorders, such as schizophrenia. Despite these differences and limitations, each survey has the advantage of being nationally representative.

IV. Comorbid Conditions and Employment Outcomes

A. Comorbid mental and substance use disorders.

General population samples (Grant & Harford, 1995; Kessler et al., 1997; Regier, et al., 1990) indicate that there are high rates of co-occurrence between substance use disorders and mental illness, with particularly strong relationships between substance use disorders and mood and anxiety disorders. The impact of this co-occurrence on employment status has not been adequately studied. The data presented in Table 1, however, indicate that persons with substance

abuse disorder and a mental illness are not more likely to be unemployed than persons with only a mental illness. However, other studies of community samples have documented considerable effects on work performance. Loss of work time (Olfson et al., 1997) or limited work effort (Kessler & Frank, 1997) is greater for persons with two types of mental disorders than one, which in turn is greater than work loss for persons without any mental illness.

Information about the direct impact on work status of substance use disorders that co-occur with mental illness is limited to special population samples. These studies demonstrate that comorbidity increases the likelihood of quitting or being fired (Becker, Drake, et al., 1998) and reduces chances of obtaining employment. For example, a follow-up study of disability beneficiaries in Chicago who had been terminated for substance abuse showed that the least likely to gain employment were persons whose drug diagnosis had not remitted and who had a comorbid psychiatric disorder (Swartz et al., 2000). Substance use disorders and psychiatric illness have also been reported as barriers to gaining and maintaining employment among former welfare beneficiaries (Danziger et al., 2000; Jayakody, Danziger, & Pollack, 2000; Schmidt, Weisner, & Wiley, 1998).

B. Comorbid mental and physical disorders.

There is evidence that persons experiencing chronic health conditions are also likely to experience a mental disorder, which is typically depression (Benjamin, Morris, McBeth, Macfarlane, & Silman, 2000; Bruce, Seeman, Merrill, & Blazer, 1994; Hawley & Wolfe 1993; Magni, Marchetti, Moreschi, Merskey, & Luchini, 1993; Pincus, Griffith, Pearce, & Isenberg, 1996; Smedstad, Moum, Vaglum, & Kvien, 1996; Weigert, Rodriguez, Radwin, & Sherman, 1999). Comorbid physical and psychiatric conditions have additive effects on work effort and functional limitations. For example, research has found that patients with hypertension and

diabetes have worse functioning if they also have an anxiety diagnosis (Sherbourne, Wells, Meredith, Jackson, & Camp, 1996).

Given the prevalence of depression, most research on comorbid physical and mental illness has focused on the impact of co-occurring depression and physical disorders. Studies based on data from samples of persons with a range of chronic illnesses indicate that depression exacerbates poor physical functioning. This has been noted among persons with rheumatic illness (Escalante & del Rincon, 1999; Fifield, Tennen, Reisine, & McQuillan, 1998), multiple sclerosis (Bakshi et al., 2000) and young patients who had experienced a first stroke (Neau et al., 1998). Community samples examining these relationships are rare, although a study of older Hispanics with diabetes demonstrates the same associations (Black, 1999). The connection between depression and experiences of pain may be part of the reason for worse functional outcomes. A review of prospective studies of the development of chronic pain indicates that psychological variables influence the transition to chronic pain from pain onset (Linton, 2000). According to analyses of the Medical Outcomes Study, if depression co-exists with chronic illness, the disability impact is additive. For example, the disability due to depression and heart disease has been found to be twice that of heart disease alone (Wells et al., 1989). Longitudinal studies also indicate that as depression improves, disability diminishes. In a one-year follow-up study, Von Korff and colleagues (1992) examined changes in depressive symptoms and measures of disability in a sample of frequent users of health care services. Individuals whose depression improved over the period studied also showed a reduction in disability days and functional disability.

While limited, the data presented in Table 1 confirms the additive effects of physical and mental disorders on employment outcomes. In the three surveys where measures of physical and

mental conditions were available, the presence of both is associated with lower rates of employment than either alone. For instance, in the 1994/1995 NHIS, 59% of persons with only a physical disorder were employed. In contrast, only 36% of persons with both a physical and a mental disorder were employed.

V. Barriers to Employment

A. Illness characteristics.

While the data presented in Table 1 clearly indicate that in general population samples diagnoses are related to employment status, neither type of diagnosis nor symptoms fully explain differences in employment. Indeed, data from the HCC and the NCS indicate that the majority of persons with a mental illness are working. In the supplement to the 1989 NHIS, only 29% of persons with severe mental illness were unable to work at all (Barker et al., 1992) because of their illness. Thus, a central question is how mental illness translates to work disability. Most research in this area, however, offers reasonable speculations that have yet to be evaluated.

For example, age of onset of disorder is likely to be important. Some of the most severe mental illnesses typically have first onset early in life. Early onset of mental disorders disrupts educational and early work careers (Kessler, Foster, Saunders, & Stang, 1995; Turnbull, George, Landerman, Swartz, & Blazer, 1990) and may have enduring implications for employment. Persons who experienced mental illness in their youth are less likely to be employed when they are older, and if they are employed tend to use more sick leave than persons without such histories (Ostman, 1991; Vander Stoep, et al., 2000).

The chronic but cyclical nature of many symptoms of mental illness might explain some variation in employment outcomes. Difficulty concentrating, fatigue and problems in social relationships, for example, may make it difficult for individuals to maintain work continuously

over long periods of time. Level of functioning, which is not strongly correlated with diagnosis or symptoms, is more important for explaining variations in employment rates (Anthony, 1994; Anthony & Jansen, 1984; Goldman & Gattozzi, 1988) than diagnostic category.

B. Client characteristics

Not surprisingly, many of the sociodemographic characteristics that are correlated with unemployment for the general population such as older age, gender, and fewer years of education, are also correlated with unemployment for persons with mental disorders (Baldwin & Johnson, 1995; Schechter, 1997). But some research indicates that the effects of these characteristics may be exacerbated in the presence of mental illness. The negative relationship between age and labor force participation is stronger and the difference between Whites and minorities is greater among persons with mental conditions compared to persons without such illnesses (Yelin & Cisternas, 1997).

Another possible barrier to work is attitudes toward employment and motivations to seek vocational assistance. Research, however, suggests that persons with mental illnesses want to work, and recognize a need for help. In a national sample of consumers whose families are members of the National Alliance for the Mentally Ill, 61% reported a need for help with getting or keeping a job, but only 29% said they were receiving such help (Uttarro & Mechanic, 1994). Moreover, persons with mental illness express realistic job preferences (Becker, Bebout, & Drake, 1998), consistent with their levels of education and skills.

Material difficulties present a more important barrier. For example, based on data from the NHIS-D, Druss and colleagues (2000) found that lack of transportation was reported by 24% of persons with comorbid mental and physical disabilities and approximately 29% of persons with only mental disabilities as a significant barrier to obtaining employment.

Disability programs may also present economic disincentives to employment. For example, in a sample of fifty persons with severe mental illness living in the community, Polak and Warner (1996) reported that the average monthly income (cash and non-cash income such as food stamps and rent subsidies) was only about 9.6% lower for persons who were unemployed compared to persons who were working. Not surprisingly, fear of losing income support from disability programs may be one reason for unemployment; among persons who were unemployed with a mental disability (but no physical disability) in the NHIS-D, 22% cited fear of losing SSI or SSDI as a barrier to working.

C. Access to care, service use and treatment.

Very little is known about how the use of mental health services may be associated with employment outcomes in the general population. It seems reasonable, however, that access to mental health treatment, including medication with few side effects, will enhance functioning and increase ability to return to work and maintain employment. In the workplace, for example, Employee Assistance Programs (EAPs) and peer-based programs such as Member Assistance Programs (MAPs) (Bacharach, Bamberger, & Sonnenstuhl, 1996) focus on addressing mental health and substance abuse problems of workers. Four years of data, from a single large employer on employee utilization of its EAP and claims-based utilization of health and mental health services, indicate that an EAP can provide an effective referral source to behavioral health care (Zarkin, Bray, & Qi, 2000). Although not well studied, such programs are one means by which employees can be connected to mental health and substance abuse services, while being able to maintain employment.

Data about the utilization of mental health services for persons enrolled in SSI or SSDI are also not available. However, in most states SSI enrollees automatically qualify for Medicaid.

After a waiting period, persons in SSDI receive Medicare. Access to insurance through these public programs is therefore a fundamental benefit of remaining on SSI or SSDI. However, in the 1994/1995 NHIS-D, 19% of unemployed persons with a mental health disability, and 22% of persons with comorbid mental and physical disability cited fear of losing health insurance as a barrier to work. Although legislation has addressed this problem, and individuals do not automatically lose insurance benefits when they resume work, many may be unaware of this protection (Growick, 2001; Rutman, 1994).

The potential benefits of access to and utilization of appropriate services, however, are contingent on providers perceiving individuals with mental illness as capable of employment and promoting the goal of competitive employment. Rutman (1994), however, suggests that negative views held by many vocational and mental health providers about clients' abilities to work remain a significant barrier.

D. Characteristics of labor markets, work, and employer attitudes.

Little research attention has been devoted to characteristics of employers or workplaces that may be important (Akabas, 1994), although it is reasonable to expect that such characteristics are at least as important for helping persons with mental illness in obtaining employment as characteristics of illnesses or individuals. Under the Americans with Disabilities Act of 1990, employers are required to make "reasonable accommodations" in the workplace for qualified persons with disabilities, including psychiatric disabilities. However, it is unclear whether (or how) the ADA has functioned to fulfill its intent of reducing barriers in the workplace to employment for persons with psychiatric impairments.

Estimates of the number of individuals with a mental illness who face discrimination based on their illness at the workplace are tentative. However, it is estimated that about 30% of

charges of discrimination to the U.S. Equal Employment Opportunity Commission (EEOC) are based on psychological claims (Goodman-Delahunty, 2000), suggesting that discrimination at the workplace may remain a significant barrier to employment despite provisions of the ADA. The best national, community-based data come from the NHIS-D. Among approximately 3,500 employed persons aged 18-55 with mental disabilities, 36% indicated that they faced discrimination at the work place sometime in the past five years.

The ADA also may not provide the protections that were intended because many employees do not understand their rights under the Act. In a national study of job accommodations for persons with mental illnesses, Granger (2000) conducted focus groups with about 140 persons with mental illness in 10 states across the US. She found that 86% of participants did not know about the ADA or about the concept of job accommodations. Moreover, recent data also indicate that many employers are not familiar with the details of the ADA; about 20% of 117 companies surveyed indicated that they had received no formal information about ADA (Scheid, 1997, 1998, 1999; Scheid & Suchman, in press).

The stigma associated with mental illness remains a significant barrier to work and shapes decisions about either hiring or keeping a person with mental illness in the workplace. Employers are often reluctant to hire persons with psychiatric illness. Laird (1990), for example, examined whether employers would be more likely to interview a person who was identified as an ex-convict or a former mental patient. Approximately 81% of persons identified as an ex-convict were offered an interview, compared to only 58% of persons identified as an ex-mental patient. More recently, Scheid and colleagues (Scheid, 1997, 1998, 1999; Scheid & Suchman, in press) found that while about 16% of employers indicated that they would be uncomfortable hiring someone with a physical impairment, 44% said they would be uncomfortable hiring

someone who was in treatment for depression, and the majority indicated that they would be uncomfortable hiring someone with a history of substance abuse (69%), previous psychiatric hospitalization (52%) or who was taking antipsychotic medication (67%). Research also suggests that employers are more reluctant to make accommodations for persons with mental illnesses than they are to make accommodations for physical disabilities such as mobility impairments (Michaels, Nappo, Barrett, Risucci, & Harles, 1993). The stigma associated with mental disorders may also make workers reluctant to disclose their condition (Mechanic, 1998; Granger, Baron, & Robinson, 1997), and disclosure is necessary if employers are to make accommodations in the workplace.

Balancing the needs of persons with mental illness in the workplace with the demands of the job and the needs of co-workers presents difficulties, and there has been little empirical research attention given to the types of accommodations likely to be successful or acceptable to employers (Akabas, 1994; Mechanic, 1998). Flexible work hours, unpaid leave days, and flexibility in job assignments are among the accommodations that have been suggested to be potentially helpful (Crist & Stoffel, 1992; Granger et al., 1997). Others have focused on the interpersonal or social context of the workplace, and argued that accommodations that address the social nature of work are likely to be most important for persons with mental illness (Gates, 2000; Gates, Akabas, & Oran-Sabia, 1998). Gates (2000), for example, argues that supervisors and co-workers can be educated to increase their understanding of the symptoms of mental illness.

Characteristics of labor markets, including employment rates and demands for specific types of jobs, may also influence employment of persons with psychiatric disabilities. Analyses of data from 1983 to 1994 found that as labor force participation rates increased in the 1980s, so

did the participation rates among persons with disabilities. However, they found that labor force participation rates leveled off in the early 1990s.

A more recent study of the effect of the economic boom during the 1990s on employment rates for persons with disabilities is more discouraging. Using data from the Current Population Survey, Burkhauser, Daly, and Houtenville (2000) examine changes in employment and earnings for persons with disabilities compared to persons without disabilities. They found that between 1992 and 1998 the employment rate declined for persons with disabilities, 15% for women and 19% for men. In contrast, over that same period the employment rate for persons without disabilities increased.

Changes in the types of occupations characterizing the labor market may influence employment rates and labor force participation of persons with disabilities. During the 1990s the demand for low-skilled labor has steadily fallen, which may have consequences for persons with severe mental disabilities.

It may also be important to consider the extent to which opportunities for disabled persons may also be compromised by welfare to work initiatives (Noble, 1998). Given employers' low preference for hiring individuals with psychiatric problems, individuals with mental illness may be disadvantaged compared to women on welfare who are seeking work. However, studies focused on the match between welfare recipients' skills and employers' needs suggest that both groups face a highly competitive market. For example, Holzer (1996) asked urban employers about entry-level jobs available to workers without a college degree and found little correspondence between the skills of women on welfare and the employers' requirements (e.g., literacy level, possession of a high school diploma, specific experience, and skills in dealing with customers). Moreover, about 60% of jobs potentially available to welfare recipients

are located in the suburbs, but most recipients live in cities. Others have estimated that cities with large Temporary Assistance for Needy Families (TANF) caseloads would have to increase the number of jobs requiring the most basic skills by more than 20% to fully employ mothers on welfare (Levenson, Reardon, & Schmidt, 1999). Thus, even in a time of economic prosperity, it is unclear whether there are the types of jobs available that are needed for persons with the most severe mental illnesses who have work-related disabilities.

VI. Vocational Programs

A variety of programs have been implemented to reduce barriers to employment for persons with psychiatric illness, and evaluations of these programs shed some light on what enhances chances of employment. The types of programs can be loosely classified as either prevocational training or supported employment (Crowther, Marshall, Bond, & Huxley, 2001). However, vocational programs generally involve highly selected clients, persons with the most severe mental illness such as schizophrenia who are clients of community mental health programs. They tend to be individuals who have intensively used services who have had minimal success at obtaining employment. Thus, research on these programs provides information about barriers for persons with the most severe work-disability but does not inform us about barriers for the wider population with mental illness.

The prevocational training model includes such programs as clubhouses, skills training, sheltered employment and transitional employment. Under this model, resources are devoted to preparing the individual to be ready for work. Preparations generally include a series of stages, where the client is gradually introduced to employment. Often these programs include extended periods of sheltered employment, where individuals mainly work with other persons with disabilities. Prevocational training has been the program traditionally used in the U.S., and it is

estimated that there are approximately 3,000 agencies providing such programs to clients with psychiatric impairments (Crowther, et al., 2001). Evaluations of these programs have generally concluded that prevocational training programs do not increase clients' ability to obtain competitive employment (Bond, 1992; Bond, Drake, Becker, & Mueser, 1999; Lehman, 1995).

Since the 1980s, supported employment programs have developed and expanded as an alternative to prevocational training (Bond, Drake, Mueser, & Becker, 1997; Crowther et al., 2001; Lehman, 1995); the best documented of such programs is the Individual Placement and Support model (Becker & Drake, 1994; Bond, 1998; Bond et al., 2001; Drake & Becker, 1996; Drake, Becker, Clark, & Mueser, 1999). Competitive work in integrated settings is a priority of these programs, with support for the worker being provided on an as-needed basis for as long as necessary. Prevocational training tends to be de-emphasized in favor of finding clients competitive work as quickly as possible. Supported employment programs often also integrate mental health and vocational services.

Empirical research strongly indicates that supported employment programs achieve higher rates of competitive employment among persons with psychiatric illness than traditional vocational training approaches. The best evidence comes from experimental studies in which clients are assigned to either a supported employment or alternative program and results are tracked. Bond, Drake and colleagues present results from such experiments conducted in Washington, D.C. and New Hampshire (Bailey, Ricketts, Becker, Xie, & Drake, 1998; Becker & Drake, 1994; Becker et al., 2001; Drake, McHugo, Becker, Anthony, & Clark, 1996; Drake & Becker, 1996; Drake, McHugo, Bebout, et al., 1999). In the Washington study, for example, 152, mostly minority, consumers with severe mental illness living in the inner-city were randomly assigned to a supported employment program or a traditional vocational training model (Drake,

McHugo & Bebout, et al., 1999). At 18 months after program implementation, approximately 60% of individuals in the supported employment program had obtained any competitive job, compared to 9% in the traditional prevocational program (Bond et al., 1997). Crowther, et al. (2001), present a meta-analysis of clinical trials that have randomly assigned clients to either a supported employment or alternative vocational program. The research studies reviewed included persons 18 to 65 years of age, who had a severe mental illness, including schizophrenia, bipolar depression, or depression with psychotic features. Based on data from experimental studies, the researchers concluded that overall about 34% of clients in supported employment programs found competitive employment one year after the program was implemented, compared to 12% of clients in vocational training programs.

While it appears that supported employment programs achieve better rates of employment than traditional prevocational training, these programs vary substantially in service arrangements and in employment outcomes. Bond and colleagues (1997), in their review of experimental data that assess supported employment, report that the rate of competitive employment ranges from 32% to 78%. Thus, it is not clear what features of supported employment may be most effective at reducing barriers to work, although research has begun to address this issue. A study in Indiana assigned clients to either a supported employment program that included accelerated placement into competitive employment or a program that involved a more gradual approach including prevocational training followed by supported employment (Bond, Dietzen, McGrew, & Miller, 1995). During the year after the program was implemented, 56% of individuals in the accelerated model had obtained employment compared to 29% in the gradual program.

It has also been argued that integrated delivery of mental health and vocational services is a crucial element of the supported employment model. Drake and his colleagues (1996) compared two supported employment models in New Hampshire. Clients were randomly assigned to each program. The model that included integrated treatment and accelerated placement achieved better employment outcomes than the supported employment program, in which vocational services were brokered out to another agency and introduction to competitive employment was gradual. The programs differed on two dimensions; therefore, it is difficult to determine whether the integration of services or accelerated placement into competitive employment were most important. However, an experimental study in California comparing two employment programs also found that the program that integrated mental health and vocational services achieved better employment outcomes than the model that contracted with a vendor to provide vocational services (Chandler, Meisel, Hu, McGowen, & Madison, 1997).

Taken together, empirical research does suggest that supported employment is associated with better employment outcomes, including higher rates of competitive work, more work hours, and higher pay than traditional vocational services (Bailey et al., 1998), and that provision of mental health services may be an important factor in successful employment outcomes. However, there remain serious limitations to the data that make it difficult to fully evaluate how these programs reduce barriers to competitive employment.

First, these studies do not fully assess the factors that differentiate clients who were able to obtain competitive employment from clients who were not. Only one factor emerges as consistently important – prior work history. Clients who have more work experience are more likely to obtain competitive employment after participating in a supported employment program (Drake et al., 1996) than persons with less prior work experience.

The evidence about the role of clinical symptoms and diagnosis in predicting later employment outcomes is more mixed. Anthony and Jansen (1984), in their review of the vocational rehabilitation literature, for example, argue that there is not a strong relationship between symptoms or diagnosis and employment outcomes. As Lehman (1995) points out, however, available data may understate the importance of diagnosis and symptoms. Indeed, as shown above with data gathered in community samples, we know that employment rates are much lower for persons with a severe mental illness such as schizophrenia than for persons with other diagnoses. Knowledge about high rates of comorbid conditions in community and clinical samples further suggests that symptoms associated with multiple disabilities should be considered. Most evaluations of supported employment models include persons with a variety of diagnoses and do not present data on specific symptoms; therefore, it is difficult to assess the importance of clinical functioning for outcomes. An exception is a systematic review of five studies examining whether substance use is a barrier to obtaining competitive employment among persons in treatment (Sengupta, Drake, & McHugo, 1998). The studies included two supported employment programs, an assertive community treatment program, and two community support programs for clients with a mental illness. Each study indicates that employment outcomes were similar for persons with and without a substance use comorbidity.

A second limitation of existing studies is the employment outcomes that are used to assess success. The most optimistic view of the success of supported employment programs comes from data reporting the percentage of clients who attained competitive employment any time in the follow-up period. However, this obscures the fact that rates of maintaining employment over a significant length of time are low, even under the supported employment model. For example in the study by Bond et al. (1997) comparing accelerated supported

employment (experimental group) to a gradual approach that included some prevocational training (control group), only 26% of individuals in the experimental group were employed at 12 months, and the average length of employment was 9.4 weeks. Becker, Drake and colleagues (1998) examine job terminations in a sample of consumers who had successfully entered competitive employment after participation in a supported employment program. In an 18-month follow-up of 84 individuals, they found that 75% had experienced at least one job termination, and the average length of the first job was only 13 weeks. In a few cases clients left their job to obtain another (13%), but more commonly clients either quit their job (37%) or were fired (16%). Differences in demographic characteristics, clinical symptoms, amount of prevocational training and initial job satisfaction did not predict which clients would later experience an unsatisfactory job termination. However, clients who had more work experience in the prior five years were less likely to be fired or to quit their job. Clients were asked retrospectively about the reasons for the job termination, and the most common included interpersonal problems, problems related to their mental illness, dissatisfaction with work, and problems with work quality.

Third, these studies do not adequately examine the dimensions of supported employment programs likely to be most effective, nor do they adequately identify the process involved in successfully placing clients in competitive work. Research, however, does suggest that the effort involved may be substantial. In a nine-month study of a supported employment program for 30 clients, Gervey and Kowal (1995) found that about 1,255 job leads were followed, which resulted in 188 interviews, and 27 job offers. The costs of such efforts may exceed the benefits, and supported employment programs must do more to improve cost-effectiveness (Clark, Xie, Becker, & Drake, 1998; Clark & Bond, 1996).

Finally, evaluations of vocational programs are limited because they include highly selected samples, sometimes including only individuals who express interest in getting competitive employment (i.e. Bailey et al., 1998; Drake et al., 1996). Therefore, they do not address how employment opportunities could be increased for individuals who have identified themselves as unable to work. Moreover, the proportion of participants who drop out of such programs tends also to be high, often over 40% (Bond et al., 1997), and there has been little research examining reasons for termination.

VII. Conclusions

Given the prevalence of mental disabilities within the SSI and SSDI programs, any effort to reduce disability rolls must address persons with mental illness. Moreover, any efforts in this direction would be undermined if programs were aimed only at individuals whose primary disability is mental illness. Psychiatric comorbidity is highly prevalent among individuals with other disabilities and has severe consequences for functioning; therefore, it is important for mental health problems to be addressed among persons with other types of disabilities. For example, return-to-work programs could screen participants for mental health problems and provide appropriate psychiatric services to clients in need. Efforts to alleviate mental health problems, such as symptoms of depression, are likely to reduce the disability associated with physical conditions.

Interventions are most likely to be effective if they occur earlier, rather than later, in the course of disability. Mental illnesses often have first onset relatively early in life. Beneficiaries of the SSI and SSDI programs with mental disabilities are younger than beneficiaries with other disabilities, and once in these programs their lengths of stays are considerably longer. Moreover, the importance of prior work history for later employment success suggests that any effort to

establish an employment track record for younger beneficiaries may be an important goal. There may be also be secondary gains to this approach in light of the findings from the NCS that in the majority of cases of mental illness and substance abuse comorbidity, substance abuse developed after the mental illness onset (Kessler et al., 1995).

There is also a need to address the interactions among barriers to employment. Policies and programs focused on reducing symptoms or improving motivation to work, for example, are likely to have limited success if they do not address characteristics of the workplace. Employers must be educated about the requirements of the ADA and supported in attempts to accommodate workers with mental illness. Research focused on employers' perspectives would do much to help us understand the workplace supports that are necessary and the types of accommodations that are possible.

Programs designed to return clients with mental illnesses to work are likely to have modest success if they incorporate a supported employment approach. Yet more needs to be known about who is most likely to succeed in these programs, and who is likely to have difficulties. Qualitative studies of participants in supported employment including clients, counselors, and employers would better inform us about barriers to success and the characteristics of programs that are most important.

Vocational programs that integrate mental health and employment preparation services also have a better chance at success. Yet, there continue to be large disparities across states in the extent to which vocational rehabilitation programs are integrated with mental health services. According to Noble (1998), referrals from mental health specialists to rehabilitation services are infrequent, and the proportions of state mental health budgets that are devoted to vocational rehabilitation are low, despite formal agreements between mental health agencies and vocational

rehabilitation providers. Despite the fact that state vocational rehabilitation agencies are encouraged to purchase psychiatric services from mental health agencies and establish a policy whereby some counselors have specialized caseloads, only twelve states have implemented this specialized service.

Existing programs focus on placing persons with mental illness in low-paid, low skill jobs. It is unclear whether the labor market demand for these types of occupations is adequate. Moreover, it is important to note that persons with mental health disabilities are heterogeneous in terms of education and employment qualifications. While some employers feel comfortable placing persons with mental illness in low-skill jobs, many felt that individuals with mental illness were unsuited for senior positions (Scheid & Suchman, in press). Placement of clients who are educated or who have a range of specialized skills in low-skill jobs is an inappropriate vocational strategy; yet, if employers are reluctant to place such clients in high skilled jobs, it may be the only approach available.

This review makes clear that the majority of the research on work-related disability stemming from mental illness has not systematically considered the ways that co-occurring problems may exacerbate disability or otherwise complicate the likelihood of successful employment for persons with mental illness. The role of substance use comorbidities in particular is unclear. Findings from evaluations of vocational programs are mixed with regard to the extent that substance use comorbidity impairs employment. Yet other research indicates that substance use comorbidity is associated with work disability in terms of days lost from work, and impairs chances of finding employment in special populations such as welfare recipients. Further research is required to reconcile these findings and to better understand the connections between substance abuse and employment.

This review also highlights the lack of information on particularly important topics, such as how the utilization of mental health services may reduce barriers to employment. To the extent possible, data gathered from diverse sources should be used to determine where gaps in services might be greatest. For instance, data from populations in treatment, Medicaid enrollees, and general population samples should be used to obtain a better understanding of barriers to employment in a variety of settings.

Understanding the connections between mental illness and work requires looking beyond the SSI and SSDI populations. It is necessary to continue to investigate barriers to employment in community-based samples. Doing so will contribute to a better understanding of the ways in which mental illness translates into work disability for some persons and not for others.

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