

Understanding Disability in Mental and General Medical Conditions

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Objective: This study characterized the prevalence, characteristics, and impact of mental and general medical disabilities in the United States.

Method: The 1994–1995 National Health Interview Survey of Disability was the largest disability survey ever conducted in the United States. A national sample was screened for disability, defined as limitation or inability to participate in a major life activity. Analyses compared cohorts who attributed their disability to physical, mental, or combined conditions.

Results: Of 106,573 adults, 1.1% reported functional disability from mental conditions, 4.8% from general medical conditions, and 1.2% from combined mental and general medical conditions. Disabilities attributed to a mental condition were predominantly associated with social and cognitive difficulties, those attributed to general medical conditions with physical limitations, and combined disabilities with deficits spanning multiple domains. In

multivariate models, comorbid medical and mental conditions were associated with a twofold increase in odds of unemployment and a two-thirds increase in odds of support on disability payments compared to respondents with a single form of disability. More than half the non-working disabled reported that economic, social, and job-based barriers contributed to their inability to work. One-fourth of working disabled people reported discrimination on the basis of their disability during the past 5 years.

Conclusions: An estimated three million Americans (one-third of disabled people) reported that a mental condition contributes to their disability. Mental, general medical, and combined conditions are associated with unique patterns of functional impairment. Social and economic factors and job discrimination may exacerbate the functional impairments resulting from clinical syndromes.

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Disability, as defined in both a legal (1) and clinical (2) sense, denotes a level of functional impairment sufficient to impair major life activities. Mental disorders, by definition, must result in either distress or functional impairment; however, all mental disorders do not lead to disability, and, conversely, all disability is not caused by psychiatric conditions (3). Understanding the prevalence and correlates of disability in patients with mental and general medical illness can be an important first step in improving these individuals' functional status and quality of life.

As of 1990, chronic illnesses were estimated to account for \$659 billion annually in total costs to society (4). Conditions resulting in disability account for a disproportionate share of those expenditures (5), particularly during periods of economic growth, when employment rates among the nondisabled are highest (6). The World Health Organization's Global Burden of Disease study emphasized the central role of mental disorders in disability, ranking mental disorders second worldwide among categories of illness in overall disease burden (7).

Beginning with the Medical Outcomes Study, a series of studies has used medical populations to compare func-

tional impairment between patients with mental disorders and general medical conditions. The Medical Outcomes Study has demonstrated that as compared with a set of tracer medical conditions, major depression is associated with comparable overall impairment and uniquely high levels of social and role dysfunction (8, 9). Other studies have subsequently confirmed these findings for other mental disorders and in a variety of U.S. and international primary care settings (10–12).

To understand the nature and impact of mental and general medical disability in the community, at least three basic questions must be addressed. First, at a population level, what is the prevalence of mental and physical disability in the United States? And how commonly do the two forms of disability occur concurrently?

Second, at an individual level, how similar are the deficits seen in mental and physical disability? This question includes both the overall level of impairment and also specific patterns of limitations seen in general medical, mental, and combined conditions.

Finally, at both the individual and population levels, are there social, economic, or workplace factors that exacerbate disability in these disorders? More attention has been

paid to the role of such issues as self-labeling, stigma, and discrimination in the sociological than in the medical disability literature (13). Nonetheless, these factors are of potentially great importance from a health policy perspective. Most notably, the Americans With Disabilities Act cast the issue of disability in a civil rights perspective, providing disabled individuals protection against discrimination in the workplace (14).

The present study uses data from the largest U.S. disability survey ever conducted to examine the association of mental, physical, and combined conditions with functional disability. The results, derived from nationally representative data, may help further the understanding of the nature and correlates of disability.

Method

National Health Interview Disability Survey

The sample was drawn from respondents to the National Health Interview Disability Survey. The questionnaires were administered as part of the 1994 and 1995 National Health Interview Survey, a complex, multistage probability survey that targeted the noninstitutionalized civilian U.S. population.

The National Health Interview Disability Survey was administered in two phases. The phase 1 questionnaire, administered concurrently with the core National Health Interview Survey, collected basic data on disability, mental conditions and symptoms, and demographic data. The primary screening question determining eligibility for the second phase asked individuals whether they were currently "unable or limited in ability to participate in a major activity, including work and household responsibilities." The phase 2 questionnaire, administered to individuals from phase 1 with evidence of disability, obtained more extensive information about employment, use of services and benefits, transportation and personal assistance needs, housing characteristics, environmental barriers, and participation in social activities. Response rates were 87% for phase 1 and 89% for phase 2, for an overall response rate of 77%.

Because the definition and potential implications of disability in children and geriatric populations differ substantially from those in working-age adults, we included only respondents age 18–55 for this study. The final sample was composed of all respondents in this age group who completed phases 1 and 2 of the 1994 and 1995 surveys.

Conditions Causing Disability

Each respondent who reported being unable to participate or limited in participating in a major life activity was asked to identify up to two contributory conditions, which were subsequently coded according to ICD-9. Using these responses, we defined four categories for all subsequent analyses:

1. Mental disability only: ICD-9 codes 290.00–316.99.
2. General medical disability only: ICD-9 codes other than 290.00–319.99 (individuals with mental retardation, codes 317.00–319.99, were excluded from all analyses).
3. Mental and general medical disability: both 1 and 2.
4. No reported disability.

Other Independent Variables

Basic demographic information, including sex, age, race, marital status, education, income, and insurance status, were compared across categories of disability and included as covariates in multivariate analyses.

Dependent Variables

Analyses examined functional limitations, work status, disability payments, and barriers to work reported by each group of respondents.

Functional Limitations

A number of questions relating to functional limitations were included in the questionnaires. Social and physical limitations constitute important and independent aspects of function and disability (12, 15). Cognitive skills are also essential for finding jobs in an economy that is increasingly based on information (16). Therefore, social, physical, and cognitive functioning were the three summary domains of functioning used for this study (Cronbach's alpha scores were subsequently used to confirm each domain's internal coherence):

1. Social limitations constituted a report of trouble making or keeping friendships, trouble getting along with people in social situations, or serious difficulty coping with stress (Cronbach's alpha=0.64).
2. Cognitive limitations included a report of frequent trouble concentrating, confusion, or forgetfulness (Cronbach's alpha=0.65).
3. Physical limitations encompassed problems with activities of daily living, instrumental activities of daily living, or fair or poor health status (Cronbach's alpha=0.60).

Respondents were asked two other global disability questions that were analyzed separately. First, a question was asked about whether he or she had any days spent at home in bed (home bed days) during the past year. Second, each respondent was asked about others' perceptions of his or her disability.

Work Status, Disability Payments, and Work Barriers

A series of stem questions assessed current work status. Respondents identified whether they were working (in either a limited or unlimited capacity) or not working (either looking for work or unable to work). A separate section of the interview asked about receipt of Supplemental Security Income (SSI), Social Security Disability Insurance (SSDI), and work-based disability pensions.

Respondents who were not currently working were asked whether the following financial, social, or workplace barriers were contributing to their inability to work: 1) fear of losing SSI or SSDI payments, 2) fear of losing housing, 3) fear of losing health insurance coverage, 4) family or friends discouraged individual from applying for work, 5) family responsibilities kept individual from seeking employment, 6) inadequate information about jobs, 7) perception that he or she would be unable to advance in the workplace, 8) inadequate job training, and 9) lack of transportation.

Respondents who were currently working were asked a series of questions regarding job discrimination on the basis of their disability. "In the past 5 years, have you been fired from a job, laid off, or told to resign because of an ongoing health problem or disability?" "In the past 5 years, because of an ongoing health problem, impairment, or disability, have you been a) refused employment? b) refused a promotion? c) refused a transfer? d) refused access to training programs? e) unable to advance at work?"

Data Analysis

Bivariate comparisons were used to examine the association between type of disability and functional limitation, work status, and barriers to work. Confidence intervals (CIs) of 95% were generated to allow comparisons across cohorts with mental, physical, and combined conditions. Chi-square tests were used to test for specific differences in proportions.

TABLE 1. Demographic Characteristics and Insurance Coverage of Adults in the 1994–1995 National Health Interview Survey of Disability

Variable	Respondents With Mental and General Medical Disabilities (N=1,324)		Respondents With Mental Disability Only (N=1,173)		Respondents With General Medical Disability Only (N=5,124)		Respondents With Neither Mental nor General Medical Disability (N=98,952)	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI
Demographic characteristics								
Female	56.2	53–59	58.6	56–62	53.1	52–55	50.5	50–51
Age (years)								
18–24	7.2	6–9	17.8	15–20	7.2	6–8	17.6	17–18
25–44	53.6	50–57	62.3	60–65	51.1	50–53	59.7	59–60
45–55	39.1	36–42	19.8	18–22	41.7	40–43	21.4	21–22
Nonwhite	19.3	17–22	16.4	14–19	17.1	16–19	17.3	17–18
Married	45.5	43–48	42.2	39–45	61.3	60–63	65.4	65–66
Graduated high school	29.5	27–32	38.1	35–41	36.9	35–38	50.1	49–51
Income <\$25,000/year	70.0	67–73	52.0	48–56	48.8	47–51	29.1	28–30
Type of insurance coverage								
Medicare	19.2	17–22	9.0	7–11	11.1	10–12	0.1	0.0–0.2
Medicaid	34.9	32–38	23.1	20–26	17.1	16–18	3.9	3.8–4.0
Uninsured	17.0	15–19	21.6	19–24	18.3	17–19	18.3	18–19

Logistic regression models were constructed to reexamine these relationships, controlling for potential confounders. Models included a variable designating the presence of a mental condition alone, presence of general medical condition alone, presence of combined mental and physical conditions, age, race, marital status, education, income, and total number of disabling conditions.

The SUDAAN statistical package (17), with appropriate weighting and nesting variables, was used for all statistical comparisons to account for the sampling weight and the complex stratified survey design (18).

Results

Sample Characteristics

Of 106,573 respondents age 18–55, 7.2% (N=7,621), reported being unable or limited in ability to participate in a major life activity (hereafter referred to as a disability) (Table 1). A total of 1,173 (1.1%) of the respondents reported a mental disability only, 5,124 (4.8%) noted a general medical disability only, and 1,324 (1.2%) reported combined mental and physical disabilities.

For the United States as a whole, an estimated 9,189,000 individuals age 18–55 had a disabling condition during the study period. A total of 3,026,000, or about one-third of those reporting a disability, identified a mental condition as contributory. This group was fairly evenly distributed between respondents reporting a mental condition alone and those identifying a mental condition in conjunction with a general medical condition.

The most common mental diagnoses were, in descending order of prevalence, 1) anxiety disorders, 2) major depression, 3) bipolar disorder, 4) schizophrenia, and 5) substance use. The rank order was identical for respondents with disabilities attributed to mental conditions alone and those attributed to mental conditions in conjunction with general medical conditions. The most prevalent medical diagnoses in respondents with either combined or general medical conditions were 1) diseases of the musculoskeletal

system, 2) respiratory conditions, 3) diseases of the nervous system, 4) endocrine conditions, and 5) hypertension.

Differing conditions were associated with different demographic characteristics. All forms of disability were seen more in women than men, medical disabilities were seen more in older than younger respondents, and mental disabilities were strongly associated with being single or divorced. Comorbid mental and general medical conditions were associated with the lowest levels of education and income.

Functional Correlates of Disability

Respondents reporting disability due to a mental condition were more than five times more likely than those with disability due to a general medical condition to report difficulties in social ($\chi^2=1,322$, $df=1$, $p<0.001$) and cognitive ($\chi^2=815$, $df=1$, $p<0.001$) function (Table 2). In turn, those with combined mental and physical difficulties were significantly more likely than those with mental conditions alone to report social ($\chi^2=107$, $df=1$, $p<0.001$) or cognitive ($\chi^2=80$, $df=1$, $p<0.001$) difficulties. Individuals with combined conditions were significantly more likely than those with physical conditions to report physical limitations only ($\chi^2=247$, $df=1$, $p<0.001$), bed days ($\chi^2=73.4$, $df=1$, $p<0.001$), and that others regarded them as disabled ($\chi^2=192$, $df=1$, $p<0.001$). These relationships remained significant in multivariate analyses controlling for age, race, marital status, education, income, and total number of disabling conditions.

Table 3 demonstrates the prevalence of combined deficits for differing categories of illness. General medical disability was most commonly associated with difficulties in only one domain of function; only 6.1% had some combination of deficits in social, cognitive, and physical function, and only 1.7% had difficulties in all three domains. Mental disability was more commonly associated with combined deficits, with 23.3% identifying deficits in two domains of function and 14.0% reporting difficulties in all

TABLE 2. Functional Correlates of General Medical Disability, Mental Disability, and Combined Disabilities of Adults in the 1994–1995 National Health Interview Survey of Disability

Functional Correlate	Respondents With Mental and General Medical Disabilities (N=1,324)		Respondents With Mental Disability Only (N=1,173)		Respondents With General Medical Disability Only (N=5,124)	
	%	95% CI	%	95% CI	%	95% CI
Social						
Any difficulty	72.5	70–75	58.0	55–61	10.7	10–12
Trouble making friends	19.0	17–21	19.3	17–22	2.1	2–3
Trouble adapting to social situations	14.4	12–16	13.6	12–16	1.1	1.0–1.3
Trouble coping with stress	51.4	48–54	40.7	38–44	4.9	4–6
Cognitive						
Any difficulty	53.5	51–56	36.0	33–39	6.0	5–7
Trouble concentrating	38.6	36–41	24.5	22–27	2.3	2–3
Frequent confusion	41.9	39–45	25.4	23–28	4.6	4–5
Physical						
Any difficulty	81.0	79–81	36.8	34–37	56.7	55–57
Fair or poor health	67.5	65–70	28.2	25–31	40.4	39–42
Impairment in activities of daily living and instrumental activities of daily living	55.9	53–59	16.9	14–19	36.1	35–38
Days at home in bed during the past year	83.0	81–85	67.4	65–70	70.5	70–71
Others perceive you as disabled	65.7	63–69	28.3	25–31	40.3	39–42

TABLE 3. Prevalence of Deficits Among Adults With Disabilities in the 1994–1995 National Health Interview Survey of Disability

Deficit	Prevalence (%)		
	Respondents With Mental and General Medical Disabilities (N=1,324)	Respondents With Mental Disability Only (N=1,173)	Respondents With General Medical Disability Only (N=5,124)
None	8.8	31.1	38.2
Any one deficit	24.8	31.6	54.0
Social only	4.1	14.6	1.7
Cognitive only	2.0	5.4	1.2
Physical only	18.7	11.6	51.1
Any two deficits	30.8	23.3	6.1
Social and cognitive	3.2	11.7	0.5
Social and physical	14.9	6.9	2.9
Cognitive and physical	12.7	4.7	2.7
Social, cognitive, and physical	35.5	14.0	1.7

three. For those with both mental and general medical disabilities, combined deficits were the rule rather than the exception. A total of 30.8% in this group reported difficulties with two domains, and 35.5% reported difficulties in all three categories.

Work Status and Disability Benefits

As shown in Table 4, about one-third of the individuals with a single condition (35.5% of those with mental disabilities and 41.1% of those with general medical disabilities) were not currently working. In contrast, more than two-thirds of those with combined disabilities were unemployed, and fewer than one of nine individuals in this group was working without restrictions. In a logistic regression model, having combined conditions predicted a twofold increase in the likelihood of unemployment compared to having a physical (odds ratio=1.92; Wald $\chi^2=47.1$, df=1, $p<0.001$) or mental (odds ratio=1.97; Wald $\chi^2=33.0$, df=1, $p<0.001$) condition.

A total of 43.7% of those with combined conditions, 22.2% of those with mental disabilities alone, and 24.1% of those with general medical conditions were receiving either SSI, SSDI, or employer-based disability payments. In multivariate models, comorbidity conferred a two-thirds increase in odds of receiving disability payments, compared with having only a physical (odds ratio=1.64; $\chi^2=29.7$, df=1, $p<0.001$) or mental (odds ratio=1.66; $\chi^2=33.3$, df=1, $p<0.001$) condition.

Economic, Social, and Job-Based Barriers to Work

Among the nonworking disabled, 54.1% reported barriers over and above their disabling condition that kept them from finding work (Table 5). The reasons most commonly cited across groups were family responsibilities (20.0%), lack of transportation to work (19.8%), fear of losing health insurance (14.9%), inadequate job training (14.4%), inadequate job information (14.4%), and fear of losing SSI or SSDI (11.1%). There were no significant differences in either bivariate or multivariate regression models between individuals with mental, physical, or combined disabilities in these barriers to work, although small cell sizes limited the statistical power for conducting these comparisons.

Among individuals who were currently working, 24.2% reported job discrimination on the basis of their disability within the past 5 years. A total of 35.6% of individuals with combined conditions reported some form of discrimination compared with 19.4% for those with mental conditions alone and 23.7% among those with only physical conditions.

Across all three disability groups, the most common forms of discrimination cited were difficulty advancing in work (15.8%), being fired or laid off (10.8%), or being refused employment on the basis of disability (7.9%).

TABLE 4. Work or Disability Status of Adults With Disabilities in the 1994–1995 National Health Interview Survey of Disability

Status	Respondents With Mental and General Medical Disabilities (N=1,324)		Respondents With Mental Disability Only (N=1,173)		Respondents With General Medical Disability Only (N=5,124)	
	%	95% CI	%	95% CI	%	95% CI
Not working						
Looking for work	8.3	6–10	9.7	8–11	6.3	6–7
Unable to work	61.1	58–64	25.8	23–28	34.8	33–36
Working						
Unlimited ability	10.9	9–13	43.8	41–47	28.8	27–30
Limited ability	14.2	12–16	10.0	7–13	24.1	23–26
Other (retired or unknown)	5.6	4–7	10.7	9–13	5.9	5–7
Receiving disability payments						
Social Security Disability Insurance	24.5	21.9–27.1	11.0	9.0–12.9	13.2	12.1–14.2
Supplemental Security Income	20.9	18.6–23.2	12.4	10.5–14.3	8.3	7.4–9.2
Disability pension	8.2	6.7–9.7	3.1	2.1–4.1	6.0	5.3–6.7
Any	43.7	40.9–46.5	22.2	19.7–24.7	24.1	22.7–25.4

TABLE 5. Economic, Social, and Job-Based Barriers to Employment for Adults With Disabilities in the 1994–1995 National Health Interview Survey of Disability

Employment Barrier or Job Discrimination ^a	Respondents With Mental and General Medical Disabilities (N=1,324)		Respondents With Mental Disability Only (N=1,173)		Respondents With General Medical Disability Only (N=5,124)	
	%	95% CI	%	95% CI	%	95% CI
Unemployment among nonworking disabled (N=3,531)						
Any barrier	51.2	42.5–60.0	65.7	54.4–77.0	53.2	48.4–58.1
Discouragement from friends or family	7.2	2.7–11.7	9.7	3.4–15.9	7.2	4.7–9.8
Family responsibilities	13.1	7.1–19.2	29.6	18.0–41.1	20.4	16.5–24.3
Inadequate job information	18.3	11.7–24.9	20.4	10.5–30.3	12.4	8.9–15.9
Lack of advancement	11.0	5.2–16.8	11.6	3.8–19.5	6.3	3.8–8.9
Inadequate training	19.8	12.4–27.2	20.2	10.4–29.9	11.9	8.9–15.0
Lack of transportation	24.3	16.5–32.1	28.5	17.9–39.0	17.2	13.6–20.8
Fear of losing insurance or housing						
Supplemental Security Income or Social Security Disability Insurance	8.0	0.2–15.8	21.6	12.6–30.6	10.4	0.0–21.0
Housing	4.9	1.5–8.3	13.2	4.6–21.8	3.6	1.7–5.5
Health insurance	19.4	13.0–25.8	22.0	11.8–32.2	12.6	9.3–15.8
Discrimination among working disabled in last 5 years (N=3,564)						
Any discrimination	35.6	31–41	19.4	16–23	23.7	22–25
Fired or laid off	17.8	14–21	10.3	8–13	9.9	9–11
Lack of advancement	24.7	19–30	11.6	9–15	15.7	14–17
Employer refusal						
To employ	11.0	8–14	3.8	2–5	8.5	7–10
To promote	6.3	4–9	4.1	2–6	3.8	3–5
To transfer	3.9	2–6	2.1	1–3	2.6	2–3
To train	4.4	2–6	1.5	0–3	2.3	2–3

^b Horizontal and vertical Ns do not total 7,621 because 526 respondents to the survey were not given the survey regarding employment barriers and job discrimination because they were retired or their work status was unknown.

Discussion

Public Health Burden of Mental Disability

From a population perspective, the results indicate a strikingly high prevalence of mental conditions among individuals reporting a disability. An estimated three million Americans, or one-third of individuals reporting disabilities, identify a mental condition as contributing to their disability. Combined general medical and mental conditions are common, comprising one-half of those with any mental disability.

Disability as Common Final Pathway

The study's findings suggest that for a given individual, although disability may be a common final pathway for certain general medical and mental conditions, the char-

acter of deficits is quite different across these different conditions. As suggested by findings from work in primary care settings, general medical conditions appear to primarily affect physical functioning, whereas mental conditions lead to deficits in higher-order social and cognitive skills (12). These higher-order functions may be particularly important for successful functioning in the workplace. At the same time, deficits in these domains may be subtle and thereby more challenging to overcome than the more concrete barriers raised by general medical conditions.

Combined mental and general medical disabilities were associated with high levels of difficulty across a variety of functional domains: bed days, perceived stigma, employment status, disability payments, and reported discrimination. These findings may best be understood by the fact

that comorbid conditions, unlike either mental or general medical conditions alone, are most commonly associated with deficits spanning several domains of function. In turn, respondents with deficits across multiple domains have few areas of intact function available to make up for their existing deficits. The uniquely high levels of functional impairment associated with combined conditions speak to the potential importance of integrated programs that can simultaneously address individuals' medical and psychiatric needs. Patients with combined disabilities may also need to be specifically targeted as high risk in vocational and other workplace initiatives.

Stigma and Job Discrimination

Respondents in all categories reported substantial social, economic, and discriminatory barriers to work over and above the symptoms of their illnesses. For an individual with clinical symptoms, perception of such barriers appears to play an important role in mediating ultimate work status. These findings indicate the importance of more systematically measuring these constructs in the medical and mental disability literature.

These barriers to work should be remediable through health policy interventions at a state or federal level. Better transportation, job training, and job information may be relatively simple interventions that can supplement clinical interventions in improving levels of workforce participation. In 1999, Congress passed a bill to allow individuals receiving Medicaid or Medicare to retain their health benefits if they return to work (19), addressing one of the most common barriers reported by disabled respondents in this survey.

The Americans With Disabilities Act outlawed workplace discrimination on the basis of disability, and in 1997, the Equal Employment Opportunity Commission released guidelines emphasizing the applicability of the Americans With Disabilities Act to individuals with mental disabilities (20). These laws should, in theory, proscribe the sorts of disability-related discrimination reported by one-quarter of respondents to this 1996 survey. The impact of these initiatives, particularly on individuals with mental disabilities, still remains to be seen. The relatively high prevalence of reported discrimination among respondents to this survey speaks to the potential importance of such legislation and the need to monitor its implementation.

Limitations

Several limitations of the survey as used for the purposes of the study should be noted. First, there is no one single definition of disability in the scientific literature, and differing definitions may result in substantially different estimates of prevalence (21). The operational definition used by the National Health Interview Disability Survey—inability to participate in a major life activity—is the most widely accepted definition in both the clinical literature and in disability legislation. However, it will be impor-

tant for further studies to examine how differing definitions might affect findings on the relative impact of general medical and mental conditions.

Second, the study's cross-sectional study design limited the causal inferences that can be drawn from the findings. Longitudinal studies have shown evidence that disability and mental disorders appear to change synchronously over time (22). However, synchronous change still cannot establish whether, or in what cases, illness causes disability or disability leads to illness. The two possibilities are not mutually exclusive; mental and physical illnesses may lead to disability and social dysfunction, which, in turn, could further exacerbate the underlying disorders.

Finally, the survey relies on self-reports to gather diagnostic, functional, and workplace data. Recall bias tends to primarily occur with less serious and more remote episodes of psychiatric illness (23) and thus might be expected to be less prominent for patients whose mental disorders result in ongoing functional disability. The study also relies on respondents' attributions to ascribe disability to particular conditions. Although this is also a potential source of bias, it is to some degree inevitable in any disability assessment seeking to ascertain what an individual "can do" rather than simply what he or she "does do" (3, 24).

Conclusions

Although it provides a broad overview of the scope and correlates of mental disability in the United States, this study does not point to easy solutions for this problem. Indeed, the complex underlying mechanisms, frequent medical comorbidity, and socioeconomic overlay seen in mental disability all suggest the importance of similarly broad-based, integrated approaches. This integration must not only span differing ideological approaches but also bring together the diverse stakeholders—consumers and providers, mental health specialists and medical generalists, employers and policy makers—who share an interest in finding a solution.

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References

1. Equal Opportunity Employment Commission: Code of Federal Regulations, Section 1630.2, July 1991
2. Wonderlich GS, Kalsbeek WD: Institute of Medicine Disability Evaluation Study Design, First Interim Report. Washington, DC, National Academy Press, 1997, p 2.2

3. Bruce ML: The association between depression and disability. *Am J Geriatr Psychiatry* 1999; 7:8–11
4. Hoffman C, Rice D, Sung HY: Persons with chronic conditions: their prevalence and costs. *JAMA* 1996; 276:1473–1479
5. Rice DP, LaPlante MP: Medical expenditures for disability and disabling comorbidity. *Am J Public Health* 1992; 82:739–741
6. Yelin EH, Cisternas MG: Employment patterns among persons with and without mental conditions, in *Mental Disorder, Work Disability, and the Law*. Edited by Bonnie RJ, Monahan J. Chicago, University of Chicago Press, 1997, pp 25–54
7. Murray CJL, Lopez AD: *The Global Burden of Disease: A Comprehensive Assessment of Mortality and Disability From Diseases, Injuries, and Risk Factors in 1990 and Projected to 2020*. Cambridge, Mass, Harvard University Press, 1996
8. Wells KB, Stewart A, Hays RD, Burnam MA, Rogers W, Daniels M, Berry S, Greenfield S, Ware J: The functioning and well-being of depressed patients: results from the Medical Outcomes Study. *JAMA* 1989; 262:914–919
9. Hays RD, Wells KB, Sherbourne CD, Rogers W, Spritzer K: Functioning and well-being outcomes of patients with depression compared with chronic general medical illnesses. *Arch Gen Psychiatry* 1995; 52:11–19
10. Olfson M, Fireman B, Weissman MM, Leon AC, Sheehan DV, Kathol RG, Hoven C, Farber L: Mental disorders and disability among patients in a primary care group practice. *Am J Psychiatry* 1997; 154:1734–1740
11. Spitzer RL, Kroenke K, Linzer M, Hahn SR, Williams JBW, deGruy FV III, Brody D, Davies M: Health-related quality of life in primary care patients with mental disorders: results from the PRIME-MD 1000 study. *JAMA* 1995; 274:1511–1517
12. Ormel J, VonKorff M, Ustun TB, Pini S, Korten A, Oldehinkel T: Common mental disorders and disability across cultures: results from the WHO Collaborative Study on Psychological Problems in General Health Care. *JAMA* 1994; 272:1741–1748
13. Estroff SE, Patrick DL, Zimmer CR, Lachicotte WS Jr: Pathways to disability income among persons with severe, persistent psychiatric disorders. *Milbank Q* 1997; 75:495–532
14. Shapiro JP: *No Pity: People With Disabilities Forging a New Civil Rights Movement*. New York, Times Books, 1993
15. van Boxel YJ, Roest FH, Bergen MP, Stam HJ: Dimensionality and hierarchical structure of disability measurement. *Arch Phys Med Rehabil* 1995; 76:1152–1155
16. Ashford NA: The economic and social context of special populations. *Occup Med* 1999; 14:485–493
17. SUDAAN Release 7.0. Research Triangle Park, NC, Research Triangle Institute, 1998
18. Variance Estimation for Person Data Using the NHIS Public Use Person Data Tape 1995 From Data File Documentation, National Health Interview Survey on Disability, Phase 1 and Phase 2, 1994: Machine Readable Data File and Documentation CD-RPM Series 10, Number 8A. Hyattsville, Md, National Center for Health Statistics, 1998
19. Pear R: Bill expands health benefits for disabled people who work. *New York Times*, Nov 19, 1999, p A33
20. Mechanic D: Cultural and organizational aspects of application of the Americans With Disabilities Act to persons with psychiatric disabilities. *Milbank Q* 1998; 76:5–23
21. Bassett SS, Chase GA, Folstein MF, Regier DA: Disability and psychiatric disorders in an urban community: measurement, prevalence, and outcomes. *Psychol Med* 1998; 28:508–517
22. Ormel J, VonKorff M, van den Brink W, Katon W, Brilman E, Oldehinkel T: Depression, anxiety, and disability show synchrony of change. *Am J Public Health* 1993; 83:385–390
23. Simon GE, VonKorff M: Recall of psychiatric history in cross-sectional surveys: implications for epidemiologic research. *Epidemiol Rev* 1995; 17:221–227
24. Pincus HA, Kennedy C, Simmens SJ, Goldman HH, Sirovatka P, Sharfstein SS: Determining disability due to mental impairment: APA's evaluation of Social Security Administration guidelines. *Am J Psychiatry* 1991; 148:1037–1043