

**Human Behavior Course
2004**

**THE GLOBAL BURDEN OF
MENTAL ILLNESS**

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HUMAN BEHAVIOR COURSE 2004
GLOBAL BURDEN OF MENTAL ILLNESS - SLIDES

LEARNING OBJECTIVES & ISSUES FOR THOUGHT.

1. Name the ways that mental illness reduces workplace and military productivity.
2. Name the ways that mental illness burdens general medical practitioners.
3. Describe recent research findings that rank the burden of mental illness to other health issues facing society.
4. How could depression be a bigger global problem than cancer?

Slide 1

The Burden of Mental Illness

- Burden to society
- Burden to the workplace & military
- Burden to medical care
- Burden to patients with chronic medical illnesses
- Burden to veterans
- Burden to the people and their families who suffer from mental illness



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Hospital-Related Lost Duty Days Active Duty Military, 1999

Total hospital bed days, all causes	273,171
Bed days due to mental disorders (as primary diagnosis)	76,747 (28%)

Hoge et al. Am J
Psychiatry, Sept 2002

Cumulative Percent of Service Members Who Left Military Service Within Specified Time After 1st Hospitalization, 1996 Cohort

	Mental Disorders (n=7,902)	Other 15 ICD-9 Illness Categories (n=59,969)
6 Months	47%	12% (range 11-18%)
1 Year	61%	22% (range 19-30%)
2 Years	74%	38% (range 33-49%)

P<.0001 for all comparisons, independent of age, gender, duration service

Hoge et al. Am J
Psychiatry, Sept 2002

Cumulative Percent Who Left Military Service Within Specified Time After First Ambulatory Visit (1997 Cohort)

	Mental Disorders (n=65,562)	15 Other ICD Illness Categories (n=857,490)
6 Months	27%	9% (range 6-19%)
1 Year	40%	18% (range 14-27%)

Differences were independent of age, gender, duration of service

Hoge et al. Am J
Psychiatry, Sept 2002

Burden of Depression Alone

- Annual cost (direct & indirect) in U.S. \$43.7 Billion
- 10-15% of primary care patients have MDD
- 1 of 8 require MDD treatment during their lifetime.
- Half of depression care occurs in medical settings
- A fifth of depression care occurs in specialty mental health care settings
- MDD sufferers often present to their doctors with vague physical symptoms causing MDD to go undetected or untreated



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Simon, 1999; Regier et al, 1993; Regier et al, 1978

30 Leading Worldwide Causes of Disability WHO Global Burden of Disease Study *

<u>RANK</u>	<u>DISORDER</u>	<u>DALY x 10⁴</u>
1	Lower Respiratory Tract Infections	112.9
2	Diarrheal Diseases	99.6
3	Perinatal Disorders	92.3
4	Unipolar Major Depression	50.8
5	Ischemic Heart Disease	46.7
16	War Injuries	20.0
17	Self-Inflicted Injuries	19.0
19	Violence	17.5
20	Alcohol Use	16.7
22	Bipolar Disorder	14.3
26	Schizophrenia	12.8
28	HIV	11.2
29	Diabetes Mellitus	11.1
30	Asthma	10.8



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* Murry, Lopez. *Lancet* 1997; 349:1436-42

Common ICD-9 Diagnoses CCEP Report on 10,020

	<u>Primary Dx</u>	<u>Any Dx</u>
Psychological	19%	37%
Musc-Skeletal	17%	45%
Ill-Defined	17%	41%
Healthy	11%	19%
Digestive	6%	22%
Dermatologic	6%	20%
Respiratory	7%	18%
Nervous	6%	18%
Endocrine	2%	11%
Infectious	3%	9%



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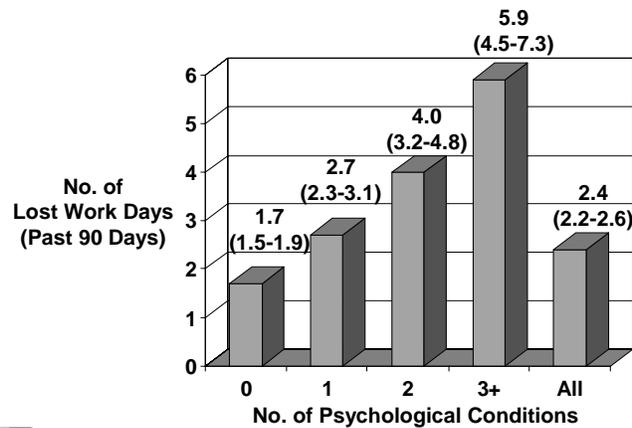
Mental Illness Associated With A Large Portion of Disability Among Help-Seeking Gulf War Veterans

	N	Days of Lost Work		% of All Lost
		Total	Mean	
Psychological --	2,453	8,709	3.6	28.0%
Ill-Defined --	2,506	7,169	2.2	17.0%
Musculoskeletal --	2,351	6,757	2.0	15.2%
Neoplasm --	108	871	8.1	2.8%
<u>Healthy --</u>	<u>1,183</u>	<u>866</u>	<u>0.7</u>	<u>2.8%</u>
Total --	18,075	43,771	2.4	100.0%



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Illness After The Gulf War Mental Disorders & Morbidity



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Health Care Costs Among Employees of a Major US Corporation in 1995

TABLE 2. Health Care Costs Incurred by 15,153 Employees of a Major U.S. Corporation Who Filed Health Claims in 1995

Disorder	Cost of Mental Health Care ^a			Cost of Non-Mental-Health Care ^d			Total Health Care Cost ^e		
	Mean (dollars) ^b	Difference From Depression ^c		Mean (dollars) ^b	Difference From Depression ^c		Mean (dollars) ^b	Difference From Depression ^c	
		t	p		t	p		t	p
Depressive disorder (N=412)	1,341			3,032			4,373		
Diabetes (N=203)	29	-22.6	<0.001	4,341	2.98	0.03	4,371	0.00	1.00
Heart disease (N=715)	38	-31.5	<0.001	4,080	3.34	0.01	4,117	-0.80	0.97
Hypertension (N=689)	107	-29.9	<0.001	3,558	1.65	0.56	3,666	-2.18	0.25
Back problems (N=349)	38	-26.8	<0.001	3,337	0.83	0.96	3,376	-2.66	0.08
All others (N=12,785)	24	-39.2	<0.001	925	-8.27	<0.001	949	-13.2	<0.001

^a Proportion of variance explained by the model: R²=9.9% (df=14,360 for each t test).

^b Adjusted for age, sex, race, income, geographic region, education, salary, and tenure with the corporation.

^c Adjusted costs compared with t tests; p values calculated by using the Tukey method of post hoc comparisons.

^d Proportion of variance explained by the model: R²=6.0% (df=14,360 for each t test).

^e Proportion of variance explained by the model: R²=6.5% (df=14,360 for each t test). Calculated as separate model; therefore, may not represent exact sum of mental and non-mental-health costs.



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Druss, Rosenheck, and Sledge, Aug 2000 Am J Psychiatry

Sick Days and Total Employer Costs Among Employees of a Major US Corporation in 1995

TABLE 3. Sick Days and Total Cost Incurred by Employees of a Major U.S. Corporation Who Filed Health Claims and Had Work Data Available in 1995

Disorder	Sick Days (N=9,398) ^a			Total Per Capita Health and Disability Costs (N=9,398) ^d			Total Costs to the Corporation (million dollars) ^e
	Mean ^b	Difference From Depression ^c		Mean (dollars) ^b	Difference From Depression ^c		
		t	p		t	p	
Depressive disorder (N=412)	9.86			5,415			2.2
Diabetes (N=203)	7.17	-2.91	0.04	5,472	0.10	1.00	1.1
Heart disease (N=715)	7.47	-3.27	0.01	5,523	0.24	1.00	3.9
Hypertension (N=689)	5.39	-6.26	<0.001	3,732	-3.88	0.002	2.6
Back problems (N=349)	7.21	-2.90	0.04	4,388	-1.96	0.36	1.5
All others (N=12,785)	3.32	3.31	<0.001	1,292	-11.3	<0.001	16.6

^a Proportion of variance explained by the model: R²=6.0% (df=8,922 for each t test).

^b Adjusted for age, sex, race, income, geographic region, education, salary, and tenure with the corporation.

^c Adjusted costs compared with t tests; p values calculated by using the Tukey method for post hoc comparisons.

^d Proportion of variance explained by the model: R²=8.6% (df=8,922 for each t test).

^e Per capita cost multiplied by number of employees with disorder. Because each total represented only one measurement, tests of statistical significance of differences among total costs across diseases were not performed.



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Druss, Rosenheck, and Sledge, Aug 2000 Am J Psychiatry

Impact of Comorbidity of Depression & Medical Disorders Among Employees of a Major US Corporation in 1995

TABLE 4. Impact of Comorbidity of Depressive Disorder and Four General Medical Disorders Incurred by Employees of a Major U.S. Corporation Who Filed Health Care Claims in 1995

Disorder	Health Care Cost ^a			Sick Days ^d			Total Per Capita Health and Disability Costs ^e		
	Mean (dollars) ^b	Difference From All Others ^c		Mean ^b	Difference From All Others ^c		Mean (dollars) ^b	Difference From All Others ^c	
		t	p		t	p		t	p
Diabetes, heart disease, hypertension, or back problems only (N=1,956)	3,853	22.9	<0.001	6.64	12.50	<0.001	4,646	20.2	<0.001
Depressive disorder only (N=312)	3,417	-8.61	<0.001	8.79	3.19	0.01	4,675	8.4	<0.001
Both (N=100)	7,407	6.73	<0.001	13.48	5.44	<0.001	7,906	8.9	<0.001
All others (12,785)	949			3.32			1,292		

^a Proportion of variance explained by the model: R²=6.7% (df=14,362 for each t test).

^b Adjusted for age, sex, race, income, geographic region, education, salary, and tenure with the corporation.

^c Adjusted costs compared with t tests; p values calculated by using the Tukey method for post hoc comparisons.

^d Proportion of variance explained by the model: R²=6.0% (df=8,924 for each t test).

^e Proportion of variance explained by the model: R²=8.5% (df=8,924 for each t test).



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Druss, Rosenheck, and Sledge, Aug 2000 Am J Psychiatry

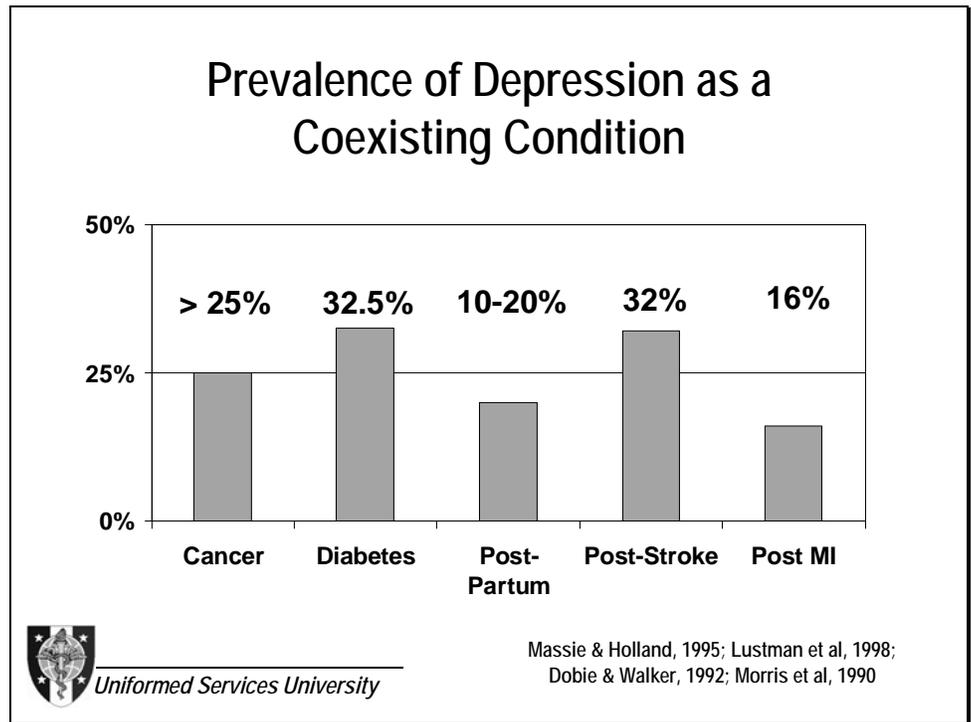
Hidden Burden to Primary Medical Care

Number of Symptoms	Number of Patients	Psychiatric Disorder N (%)		
		Anxiety	Mood	Any
<i>Physical (N=1000)</i>				
0-1	215	2 (1)	5 (2)	16 (7)
2-3	225	17 (7)	27 (12)	50 (22)
4-5	191	25 (13)	44 (23)	67 (35)
6-8	230	68 (30)	100 (44)	140 (61)
9+	130	68 (48)	84 (80)	113 (81)
<i>Somatoform (N=900)</i>				
0	654	68 (10)	107 (16)	102 (25)
1-2	143	42 (29)	60 (42)	74 (52)
3-5	87	35 (40)	40 (46)	77 (89)
6+	49	40 (55)	34 (68)	45 (94)



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Kroenke et al. Arch Fam Med 1994; 3:774



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