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Comparing Patients with Depressive Complaints and Patients with Chronic Medical Conditions on their Functioning and Medical Consumption

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Abstract

Background: Several studies have found that depressive complaints are associated with limitations in functioning that are at least comparable with those of chronic medical conditions, such as diabetes or lung diseases. However, the consequences of these associations for the utilization of general health care services are not known, certainly not for health care settings outside the United States.
Aims of the Study: To investigate the association of depressive complaints with functioning and health care utilization, comparing this with the association of chronic medical conditions with functioning and health care utilization.
Methods: In a community-based sample of Dutch adults (N=9428), chronic conditions (21 types) and depressive complaints were assessed by self-report. Only active conditions and depressive complaints, for which treatment was taking place, were selected for the analyses. Health status and disabilities were also assessed by self-report. Information on the utilization of health care services was based on self-report as well as on data extracted from a claims database. This database also provided information on the use of psychoactive medications.The associations between chronic conditions, depressive complaints and dependent variables were determined by analysis of variance or regression analysis, adjusting for possibly confounding factors (gender, age, living conditions).
Results: Depressive complaints, more than any chronic condition (except back problems), were associated with fatigue, poor subjective health and days spent in bed. Those having depressive complaints visited their general practitioner (GP) more often than the others. They also contacted a medical specialist more often than other patient categories, apart from patients with heart diseases. The combination of depressive complaints and chronic medical conditions was not associated with increased utilization or lower functioning.
Conclusion: Depressive complaints are not only connected to functioning, but also to the utilization of general health care services. The strength of these associations is comparable with that of chronic medical conditions. This study stresses the pertinence of (research on) the management and treatment of patients with depressive complaints in general health care settings.

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Introduction

Depressed patients show limitations in functioning and well-being that are similar or even worse than limitations associated with chronic medical conditions, such as diabetes, arthritis or heart failure.[1-5] Patients with depression are restricted, persistently in time, in a wide range of daily activities and functioning. These long-term effects of depression were found to be at least equally extensive as the effects of chronic medical conditions.[6] Depression increases the risk of onset of disability[7] and changes in depression are connected with changes in disability.[8]

Since depression, like chronic medical conditions, is associated with limitations and disabilities, there will be a loss of autonomy and a growing dependence on others. Therefore, a greater need for support will arise, leading to a demand for both informal (non-professional) and professional help. The need for professional help may be expressed as a demand for specialty mental health services. The need for help may also be expressed, at least partly, as a demand for general medical care, like primary care services, or services from outpatient departments of general hospitals,[9-11] because depression is often not recognized and is accompanied by bodily signs and symptoms.[12]

Whether and to what extent depressive disorders are associated with an increased use of general health care, or, conversely, lead to a reduced use of these services, as shown in some studies,[13-14] is still undecided. As health care utilization is partly dependent on the organization and structure of the health care system and most comparable studies have been done in the United States, replication studies in other settings would seem desirable. Moreover, it is not known whether the association between depressive disorders and utilization is restricted to disorders only (as defined by formal classification systems like DSM-IV), or can be generalized (to a certain extent) to depressive symptoms or depressive complaints, as suggested by some previous studies.[13-14] In our study we will compare patients with depressive complaints (not necessarily disorders) with patients having a chronic medical condition, using the latter as a frame of reference.

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As chronic conditions are associated with a higher rate of mental health problems,[18-19] the combined effect of chronic medical conditions and mental health problems has drawn and still deserves special attention.[20] For that reason we will study, in addition, the combined effect of chronic medical conditions and depressive complaints. In this article we will therefore address these two questions:

(i) To what extent are depressive complaints, in comparison with chronic medical conditions, associated with limitations in functioning and raised health care utilization?

(ii) To what extent is the combination of depressive complaints and chronic medical conditions associated with limitations in functioning and raised health care utilization?

Method

Data were used from a community-based sample of adults (from 15 to 90 years of age), from a population of enrollees of a sickness fund working in the western part of the Netherlands, who had responded to a health survey mailing (N=9428). The design of the procedure for conducting the survey was guided by Dilman's[21] recommendations. The first mailing of the survey took place in February 1993. In this sample, individuals who had been hospitalized during a period prior to the survey were deliberately over-represented. The net response rate to the survey was 70.4%. An analysis of the non-response showed that respondents and non-respondents differed slightly in their medical consumption. This non-response bias will result in a small over-estimation of the utilization of prescribed drugs.[22]

As part of the survey, chronic conditions (21 types) and depressive complaints were assessed by self-report, using the same checklist as listed in the periodical General Health Survey of the Central Office of Statistics in the Netherlands.[23] Only active chronic conditions and depressive complaints, for which treatment was taking place, were selected for the analyses. The seven most prevalent conditions in the sample (arthritis, back problems, diabetes, heart disease, hypertension, lung disease and migraine) were used for comparative analyses in contrast with depressive complaints. Data on the other conditions were used in combination with these seven as part of a comorbidity index (number of conditions).

To validate the self-reported depressive complaints, several measures of psychological functioning, i.e. distress, were available, as was information on the use of psychoactive medications. Psychological distress was measured using the Negative Affect Scale (NAS), i.e. the negative items of Bradburn's Affect Balance Scale,[24] and a Nervousness sub-scale, which formed part of a questionnaire on subjective health.[25-26] The NAS is a five-item scale, which appeared to be quite reliable (Cronbach's alpha = .80) in this study. It is related to factors such as anxiety and depression,[24] neuroticism and psychological complaints.[27] The three item Nervousness sub-scale was originally part of a scale to measure work-related stress and subjective health. Its reliability appeared to be satisfactory (alpha = .74). It measures feelings of nervous tension and irritability and it is correlated to neuroticism.[26]

Information on the use of psychoactive medications was based on data extracted from a claims database. These claims data could be matched with the health survey data. Use was counted over two periods: from January to April, directly before or during the period when the mailed health survey was conducted, and from May to December, directly following that period. Three categories of psychoactive medications were distinguished: anxiolytics, hypnotics/sedatives and anti-depressants. These categories were defined in accordance with the main categories N05B, N05C and N06A of the Anatomical Therapeutic Chemical (ATC) classification index, developed by WHO.[28] Only the event of utilization was measured, not quantity or dosage.

Functioning was assessed by self-report using several health-related indicators, i.e. physical disabilities, fatigue and subjective health. Two measures of disability, based on indicators developed by the O.E.C..D.,[29] were used: restrictions in Activities of Daily Living (ADL) and mobility restrictions. The reliability (Cronbach's alpha) of these measures was 0.89 and 0.85, respectively.

Fatigue was measured with a separate sub-scale from the aforementioned questionnaire on subjective health.[25] This four-item scale, with a reliability of 0.75, is sensitive to changes in both mental and physical health.[26] A single item, asking respondents to rate their health in general, measured subjective health. The same item is used in the periodical General Health Survey of the Central Office of Statistics in the Netherlands.[23]

Information on illness behavior and the utilization of health care services was mainly based on self-report. Days in bed, and consultations of a general practitioner during the six months before the survey and of medical specialists during the 12 months before the survey, were assessed by self-report. In addition, consultations of medical specialists in the period directly following the health survey were assessed using claims data. Subsequent consultations of medical specialists were counted over the period from May to December 1993, directly following the health survey.

The associations between chronic conditions, depressive complaints and dependent variables were determined by analysis of variance or regression analysis, adjusting for possibly confounding factors (gender, age, living conditions and educational level). In order to find out whether depressive complaints are associated with functioning and health care utilization in a way that is different to chronic conditions, two comparisons were made. First of all, a comparison between types of chronic conditions and cases with depressive complaints was made on a selection of subjects with only one chronic condition or with depressive complaints only, using analysis of variance with the confounding factors as covariates. In addition, the differential association of depressive complaints and type of chronic condition was examined by means of multiple regression analyses or logistic regression analyses. In these analyses all cases were included (with and without comorbidities).

Three models were compared for their ability to explain

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variance in functioning and utilization. In all models, as mentioned earlier, the authors controlled for hypothesized confounders. In the first model, seven dummy variables for types of chronic conditions and a variable indicating the number of other chronic conditions (comorbidities) were used as predictors. In the second model, having depressive complaints was added as a dummy. Finally, in the third model, interactions between chronic conditions (seven types of condition as well as the number of other chronic conditions) and having depressive complaints were added.

Comparing the first and second models will show the strength of the association between depressive complaints and dependent variables in contrast with chronic medical conditions (research question i). From the comparison of the second and the third models we can learn whether the combinations of depressive complaints and chronic medical conditions have additional associations with the dependent variables (research question ii).

To make results representative of the original population of sickness fund enrollees, they are corrected by weighting for age/sex and prior hospitalization. All results, whether summarized in a table or presented in the text only, are based on analyses using a 1% significance level (two-tailed).

Results

Almost 57% of the respondents were female. The largest age category was 25-34 years (28%), while 17.4% was aged 65 or over. Forty percent had one or more chronic conditions. Nearly 16% had a chronic condition with at least one comorbid condition. Back problems were predominant (8.8%), followed by arthritis (6.7%) and migraine (7.3%). More than 5% had depressive complaints, for which treatment was being sought.

More than 16% of the respondents had stayed at least four days in bed, during the last six months, because they felt ill. Most respondents (78.6%) had consulted their GP at least once during the last 12 months, 21.6% at least twice within the last two months. A medical specialist had been consulted by 37.6% during the last 12 months and by 40.3% in the subsequent period.

Additional information on sample characteristics can be found in **Table 1**.

As we used self-reported mental health problems and consultations of specialists for those problems as criteria for depressive complaints, it is useful to compare this category of respondents with those reporting chronic medical conditions on several measures of psychological distress and use of psychoactive medication. As can be seen in **Table 2**, the seven selected chronic medical conditions show a quite similar pattern in contrast to the category of depressive complaints. This category has - as expected - substantially higher mean scores on both measures of psychological distress and higher proportions of respondents using psychoactive medication. An exception was the utilization of hypnotics/sedatives, which is higher with some chronic conditions such as arthritis, diabetes and heart disease.

After excluding patients with comorbid conditions and adjusting for possibly confounding factors, i.e. age, gender, marital status, living situation and educational level, a comparison of different conditions (see **Table 3**) shows that depressive complaints are especially associated with fatigue, subjective health and the number of GP consultations. Diabetes and heart disease are most strongly associated with recent and subsequent consultations of medical specialists. Depressive complaints are the next most strongly associated conditions with a high proportion of recent consultations of medical specialists, and are more related than any other condition to a higher number of GP consultations. The proportion of respondents with depressive complaints consulting medical specialists in the period directly following the health survey is in the mid-range compared to other conditions.

Table 4 and **Table 5** summarize the results of two basic regression analyses, which were done to estimate the associations of chronic conditions and depressive complaints with functioning and health care utilization. For this purpose three regression models were tested at first, as described in the Method section. The results of the third model (in which interaction terms were added) are not shown in the tables, as most interaction effects appeared to be not significant. For the other two models only coefficients related to chronic conditions and depressive complaints are shown, not those related to possibly confounding factors.

Table 4 summarizes the results as to functioning and subjective health. Arthritis has the strongest association with ADL-restrictions; back problems with mobility restrictions, subjective health, and days in bed; migraine with fatigue. The number of other chronic conditions is most strongly associated with fatigue and subjective health. Adding depressive complaints as a predictor (model 2) does not improve the explanatory power of the models related to disabilities. However, it has significant and substantial associations with fatigue, subjective health and days in bed. These are comparable to or even stronger than the associations of back problems with these domains.

Table 5 presents the results of several logistic regression analyses, which were done to estimate recent utilization (as measured by consultations of GPs and medical specialists) and subsequent utilization (as measured by consultations of medical specialists).

It shows that subjects with lung disease, especially, had more GP consultations; and that subjects with heart disease had an elevated level of consultations of medical specialists.

Having depressive complaints was associated with all four dependent variables. Subjects with depressive complaints had a higher number of recent GP consultations than those with lung disease. Depressive complaints were associated with recent consultations of medical specialists to a lesser degree than heart disease and to a higher degree than all other conditions. Depressive complaints were also positively associated with subsequent consultations of medical specialists, but not as strongly as with recent utilization.

Discussion

Subjects with depressive complaints suffered more

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Table 1. Sample characteristics

Variable	N	%
Gender		
Male	4,065	43.1
Female	5,363	56.9
Age		
15-24 yr	878	9.3
25-34 yr	2,635	28.0
35-44 yr	1,738	18.4
45-54 yr	1,450	15.4
55-64 yr	1,090	11.6
65-74 yr	922	9.8
75 yr or older	714	7.6
Marital status		
Married/living with partner	6,436	68.3
Never married	1,818	19.3
Divorced/separated	316	3.4
Widowed	739	7.8
Unknown	118	1.3
Living situation		
Alone	1,461	15.5
With one person	3,146	33.4
With two or more persons	4,508	48.0
Unknown	312	3.3
Educational level		
Low	5,429	57.6
Middle	2,619	27.8
High	1,087	11.5
Unknown	293	3.1
Number of chronic conditions (w/o depressive complaints)		
0	5,562	59.0
1	2,187	23.2
2	868	9.2
3 or more	615	6.5
Unknown	195	2.1
Specific conditions		
Osteoarthritis	633	6.7
Back problems	831	8.8
Diabetes	172	1.8
Heart disease (-infarct)	175	1.9
Hypertension	682	7.2
Lung disease	436	4.6
Migraine	689	7.3
Depressive complaints	516	5.5
Current use of psychoactive medications		
Anxiolytics	530	5.6
Anti-depressants	133	1.4
Hypnotics & sedatives	436	4.6
Recent utilization of health services (based on survey)		
GP consultation (last 12 m.)	7,412	78.6
at least 2 GP consultations (last 2 m.)	2,043	21.7
consultation of med. spec. (last 12 m.)	3,541	37.6
Subsequent utilization (based on claims data over 8 months)		
consultations of med. specialists	3,801	40.3
Measures of health and disability		
at least 4 days in bed - last 6 months	1,517	16.1
	Mean	*SD*
Psychological distress		
Negative Affect - Affect Balance Scale	6.60	2.21
Nervousness Scale	0.62	0.98
Measures of health and disability *)		
Fatigue Scale	0.93	1.27
Subjective health (‘worse’)	2.14	0.83
ADL-restrictions	3.10	0.69
Mobility restrictions	3.62	1.69

The score range for each measure is such that a higher score means more of the given attribute, unless stated otherwise in parentheses.

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Table 2. Means of indicators of psychological distress (*) and proportions of users of psychoactive medication (**) according to chronic conditions and depressive complaints.

Condition:		Negative Affect	Nervousness	Current use of Anxiolytics	Current use of Hypnotics & Sedatives	Current use of Antidepressants
Arthritis	no	6.54	0.59	0.052	0.039	0.013
	yes	7.39	0.92	0.119	0.141	0.034
Back problems	no	6.53	0.59	0.052	0.041	0.013
	yes	7.35	0.91	0.099	0.099	0.024
						(n.s.)
Diabetes	no	6.59	0.61	0.055	0.044	0.014
	yes	7.22	1.00	0.104	0.153	0.027
				(n.s.)		(n.s.)
Heart disease	no	6.59	0.61	0.055	0.044	0.014
	yes	6.93	0.93	0.108	0.143	0.027
		(n.s.)		(n.s.)		(n.s.)
Hypertension	no	6.57	0.59	0.050	0.040	0.013
	yes	7.01	0.97	0.140	0.119	0.033
Lung disease	no	6.56	0.60	0.055	0.044	0.014
	yes	7.30	0.91	0.087	0.088	0.018
				(n.s.)		(n.s.)
Migraine	no	6.52	0.58	0.052	0.045	0.013
	yes	7.52	1.01	0.115	0.056	0.034
					(n.s.)	
Depressive complaints	no	6.37	0.53	0.045	0.042	0.006
	yes	10.44	2.08	0.246	0.120	0.153

(*) p-values based on T-tests
(**) p-values based on Chi-square tests
For all differences: $p < .01$; n.s.= not significant ($p > .01$)

disabilities, more fatigue, more days in bed and a worse subjective health than those without such complaints. Health care utilization is higher in the presence of depressive complaints. Most of all, consultations of GPs are more frequent, but so are recent as well as subsequent consultations of specialists. These associations remain after correction for hypothesized confounders such as age, gender and other demographic characteristics, and several disease variables, i.e. chronic medical conditions.

The most important findings in relation to the first research question were that depressive complaints are more connected to fatigue, subjective health and days in bed than are any of the chronic medical conditions (except back problems). As to health care utilization, depressive complaints are most strongly linked to the number of GP consultations. The association with recent and subsequent consultations of medical specialists is weaker than that of heart disease but comparable to or even stronger than that of back problems.

As to the second research question regarding the association of the interaction of depressive complaints and chronic medical conditions with functioning and health care utilization, our findings suggests that these associations are mainly additive.

Our findings are mainly an extension of those from other studies, which focused on depressive disorders or were limited to their consequences for functioning and health status. Depressive complaints (not necessarily disorders) have a substantial impact on the utilization of general health care services that goes beyond the consultation of GPs. These findings stress the importance of research on the management and treatment of patients with depressive complaints in general health care settings, since our study group of cases with

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Table 3. Adjusted means of measures of health and functional status, and proportions of medical service utilization according to specific conditions (w/o comorbidities)

		ADL-restrictions	Mobility-restrictions	Fatigue	Subj. health (worse)	4> days in bed - last 6 m**	GP consultation-last 12 m.**	> 2 GP-consultations -last 2 m**	Consultation of med. spec.-last 12 m**	Subsequent consultations of med.spec.**
Specific condition:	N									
Arthritis	150	3.26	3.98	0.89	2.17	0.15	0.87	0.28	0.46	0.37
Back problems	261	3.08	4.31	1.10	2.44	0.22	0.89	0.23	0.44	0.45
Diabetes	46	3.15	3.87	1.14	2.31	0.20	0.85	0.31	0.68	0.68
Heart disease	51	2.96	3.54	1.23	2.64	0.23	0.88	0.23	0.92	0.86
Hypertension	238	2.99	3.23	0.78	2.11	0.10	0.96	0.20	0.41	0.39
Lung disease	154	3.08	3.78	1.08	2.37	0.25	0.95	0.36	0.48	0.52
Migraine	268	3.09	3.56	1.08	2.12	0.19	0.86	0.18	0.38	0.44
Depressive complaints	133	3.07	3.65	2.40	2.63	0.20	0.91	0.41	0.55	0.48
F		5.14	8.91	21.46	11.45	2.34	2.84	5.40	8.18	7.80
p		.0000	.0000	.0000	.0000	.0227	.0061	.0000	.0000	.0000

Note: Means and proportions adjusted for age, gender, marital status, living situation and educational level
F: ratio between variance explained by specific chronic conditions and residual variance
**: proportions instead of means
Adjusted proportions of medical service users were calculated using analysis of variance, to make them comparable to proportions reported in other tables.
In addition, logistic regression was used, which is more appropriate for this type of data. The results did not differ from those reported in the table.

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Table 4. Standardized regression coefficients for functioning and health status, odds ratios for days in bed among disease variables and depressive complaints

Dependent variable	ADL-Restrictions		Mobility Restrictions		Fatigue		Subjective Health (worse)		4> Days in Bed - last 6 m. (y/n)	
Model	1	2	1	2	1	2	1	2	1	2
Independent Variable										
Arthritis	0.127	0.127	0.150	0.149	0.048	0.037	0.072	0.065	n.s.	n.s.
Back problems	n.s.	n.s.	0.164	0.163	0.110	0.093	0.160	0.150	2.245	2.151
Diabetes	*0.031*	*0.031*	0.038	0.039	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Heart disease	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	0.045	0.049	n.s.	n.s.
Hypertension	n.s.	n.s.	n.s.	n.s.	0.062	0.048	0.058	0.050	n.s.	n.s.
Lung disease	n.s.	n.s.	0.062	0.062	0.071	0.066	0.130	0.127	1.828	1.805
Migraine	n.s.	n.s.	n.s.	n.s.	0.119	0.078	0.089	0.065	2.187	1.969
Number of other chronic conditions	0.124	0.123	0.122	0.120	0.213	0.182	0.267	0.248	1.455	1.406
Depressive complaints		n.s.		n.s.		0.255		0.151		2.127
R^2	0.115	0.115	0.300	0.300	0.167	0.228	0.287	0.308	0.085	0.093
p	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

Note:
Models:
1: demographics, 7 specific chronic conditions and other chronic conditions
2: model 1 and depressive complaints
n.s.: not significant (p>.01); coefficients in italics: .001< p < .01; in normal font: p < .001
R^2: R square

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Table 5. Odds ratios for current and future utilization among disease variables and depressive complaints

Dependent Variable	GP-consultation last 12 m (y/n)		GP-consultation - 2> - last 2 m (y/n)		Consultation of med.spec.- last 12 m. (y/n)		Subsequent consultations of med.spec. (y/n)	
Model:	1	2	1	2	1	2	1	2
Independent Variable:								
Arthritis	1.912	1.835	1.541	1.488	n.s.	n.s.	n.s.	n.s.
Back problems	3.376	3.246	1.675	1.599	1.661	1.590	1.525	1.499
Diabetes	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	*1.872*	*1.888*
Heart disease	n.s.	n.s.	n.s.	n.s.	5.104	5.263	4.236	4.295
Hypertension	5.510	5.318	n.s.	n.s.	1.546	1.501	n.s.	n.s.
Lung disease	6.325	6.170	2.272	2.239	1.715	1.685	1.677	1.666
Migraine	2.610	2.385	1.756	1.520	*1.325*	n.s.	1.371	*1.316*
Number of other chronic conditions	2.858	2.798	1.687	1.628	2.540	2.489	1.734	1.713
Depressive complaints		3.964		2.724		2.263		*1.374*
R^2	0.167	0.173	0.115	0.129	0.178	0.186	0.128	0.129
p	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

Note:
Models:
1: demographics, 7 specific chronic conditions and other chronic conditions
2: model 1 and depressive complaints
n.s.: not significant (p>.01); odds ratios in italics: .001< p < .01; in normal font: p < .001
R^2: R square (Nagelkerke)

depressive complaints was already in treatment for these

complaints. It may be that, as other studies have shown,[30-32] the treatment given was inadequate. Although the mental health care system is quite well developed in the Netherlands, the availability of this type of knowledge and expertise within the general health care sector may still be insufficient. The development and implementation of training programs and treatment protocols, which are taking place these days,[31-33] may change the situation.

Our study may have several limitations. First, it cannot be ruled out that the association between depressive complaints and utilization is mainly caused by those having a (major) depressive disorder, as formally defined by diagnostic criteria. As no direct information is available to make such a distinction, this remains in principle an open question. However, we were able to make a distinction within the category of respondents with depressive complaints on the basis of utilization of anxiolytics or antidepressants. Although the category of users seemed to be more disabled and was feeling more ill than the category with depressive complaints not using these medications, there were no substantial differences on other measures of mental health. As to medical utilization, the association was the opposite of what we expected: use of anxiolytics or antidepressants was related to less recent consultations of medical specialists. The interpretation of these additional findings is rather complicated, as they may also reflect the disputable validity of the distinction that was made. It is not only a possible indicator of the severity of depression but also a marker that specific mental health treatment is being received, which may be effective in preventing additional (or inadequate) medical service utilization.

Second, and in relation to the above, the absence of interaction effects might be caused by the inclusion of respondents not meeting diagnostic criteria for depression. As with the first limitation, we cannot rule out this possibility on the basis of our data. However, most other studies showing clear effects not only of depression but also of psychological distress failed to find interaction effects.[20]

Third, depressive complaints may just be an indication of the severity of illness and, as such, cause an association with health care utilization. To disentangle these aspects of illness is partly a matter of definition, and will, consequently, lead to a discussion that goes beyond the scope of this paper. Other studies[34-35] have shown that these aspects, although associated, are not exchangeable. Since we found associations between depressive complaints and health care utilization not only in the presence of chronic conditions but also in cases without any chronic condition, an interpretation that considers depressive complaints and illness severity as identical would seem highly unlikely.

Finally, our definition of a chronic condition was dependent on respondents' self-report, which is different from clinical caseness criteria. As far as this is a weakness, it does not have a major impact on the main findings of our study: that depressive complaints are substantially associated with raised health care utilization and more restricted functioning. Moreover, we learned from earlier studies based on the same data that self-report data on the consultation of medical specialists are very consistent with comparable data extracted from a health insurance claim database.[36] As we asked for active conditions (i.e. conditions for which treatment was ongoing), this supports the assumption that the self-reported chronic conditions were a valid proxy for clinically assessed conditions.

Thus, our findings underscore the importance of an appropriate treatment of depression in general health care settings because of its effects on functioning and service utilization and its higher prevalence among chronic medical patients. These associations do not seem to be restricted to patients with depressive disorders, but , as our study indicates, are probably also present in cases of mild depression or depressive complaints. Formal caseness criteria for depressive disorder, as used in diagnostic classification systems, seem to be dysfunctional for the assessment of the at-risk population, which might benefit from additional treatment focused on mental health problems.

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